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No. 4,279 _83rd YEAR

THURSDAY, JUNE 29, 1961

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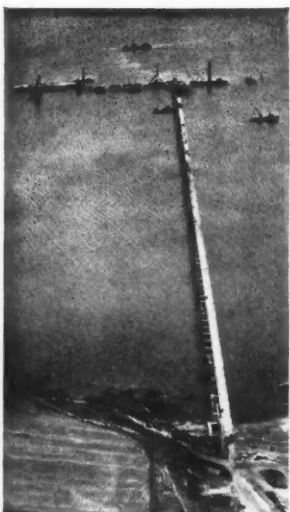


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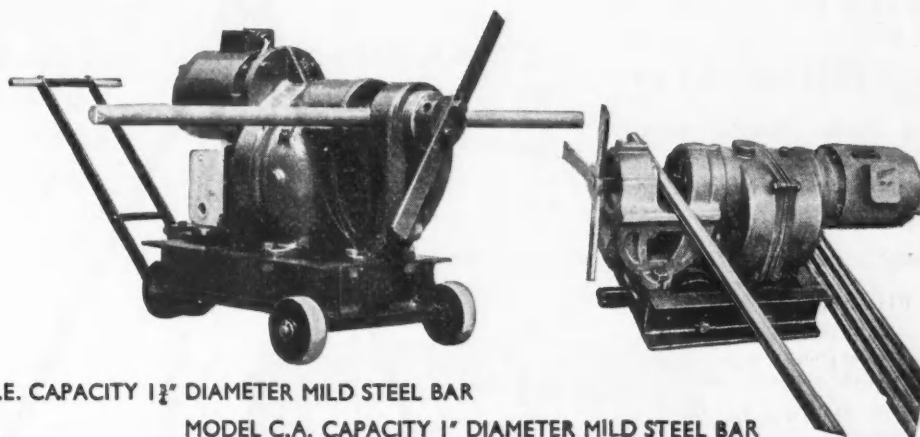
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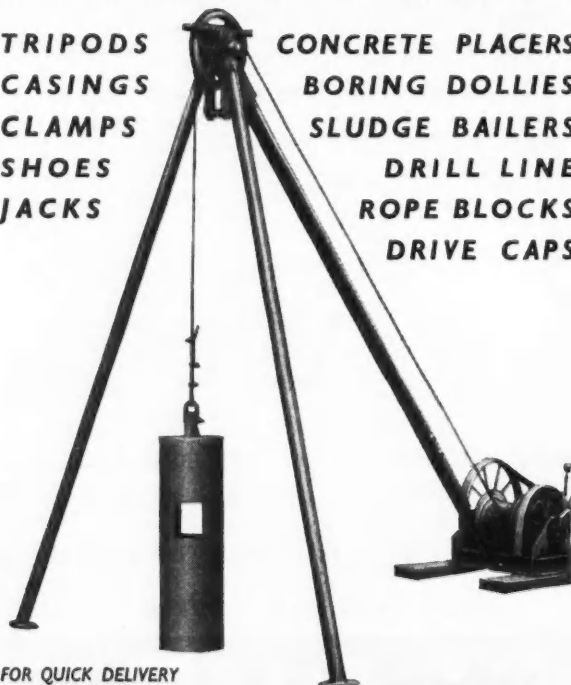
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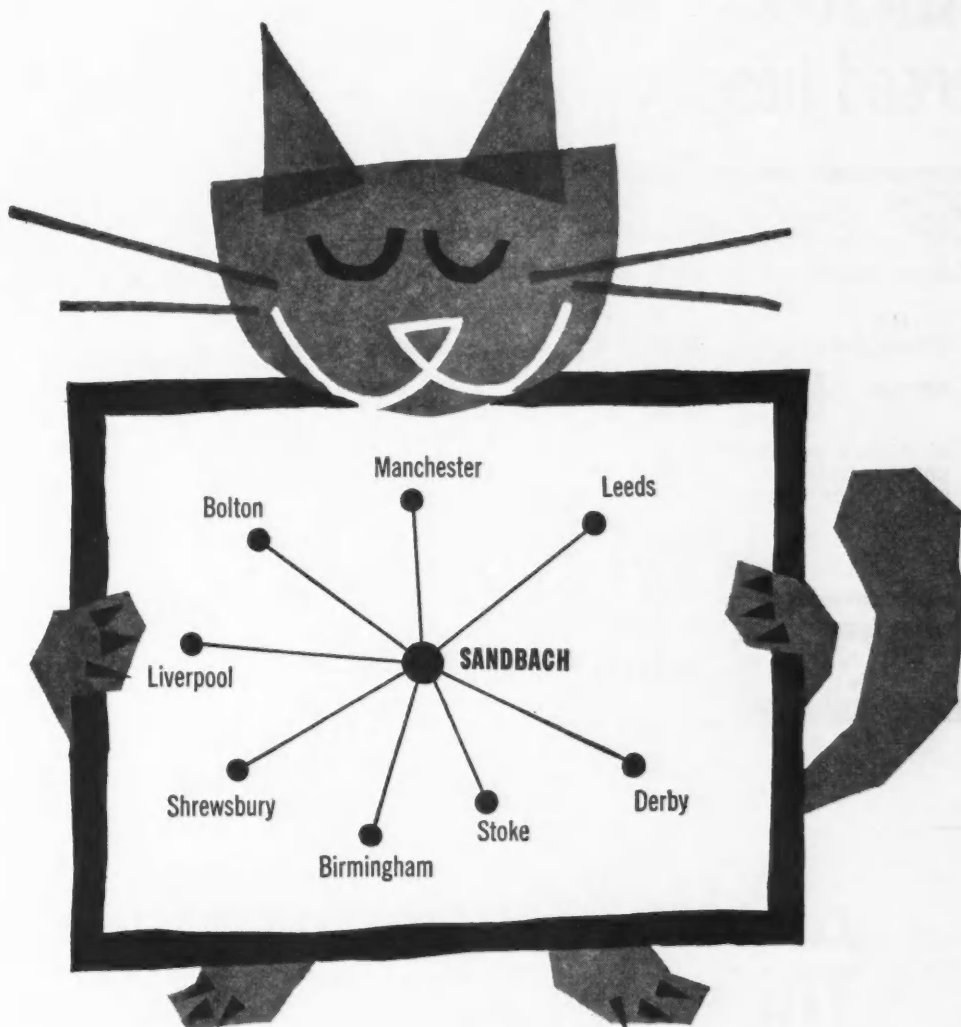
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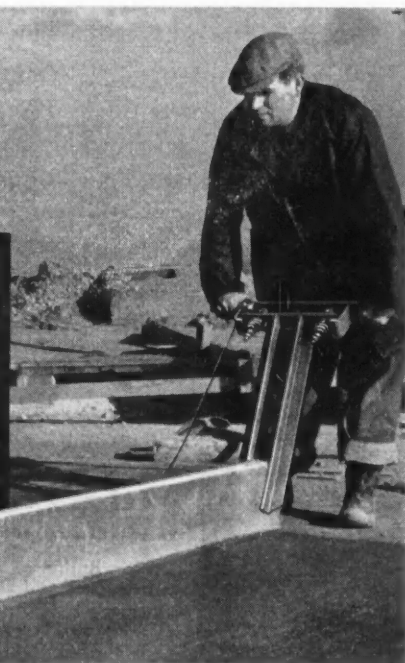
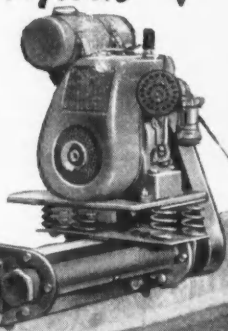
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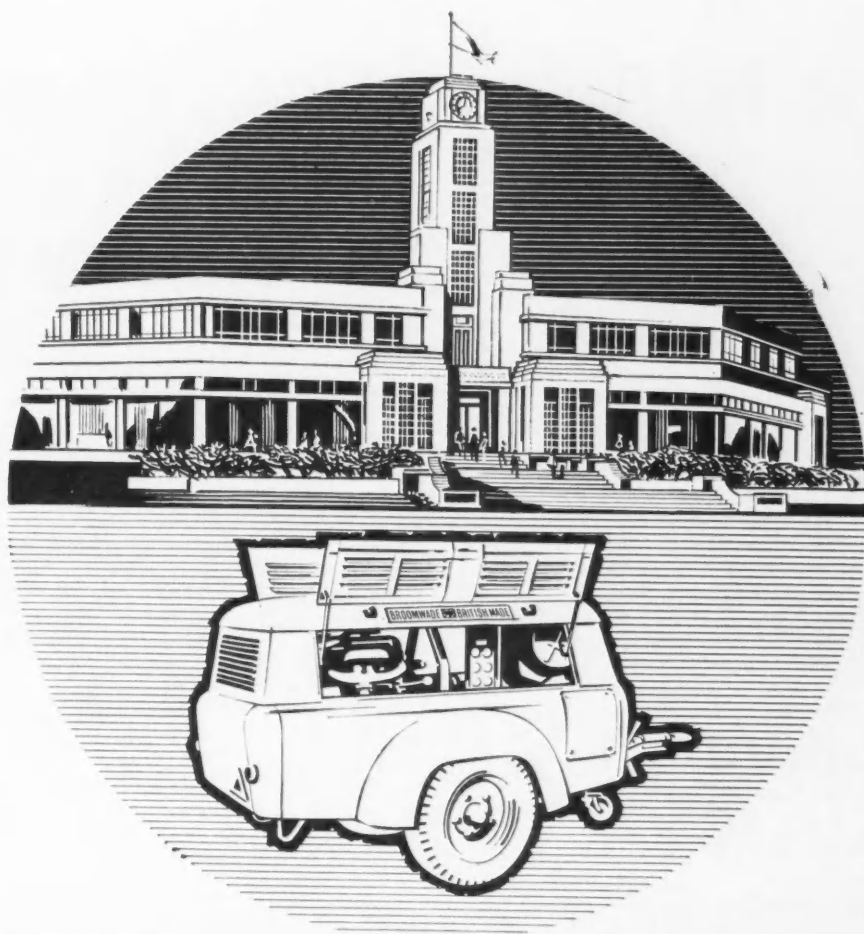
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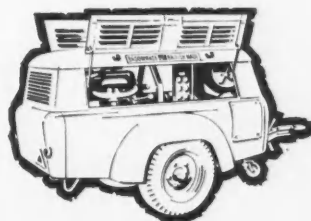


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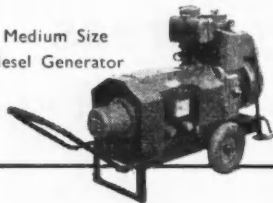
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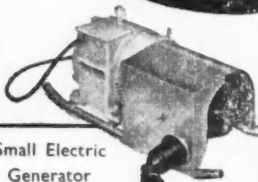


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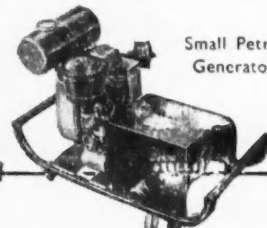
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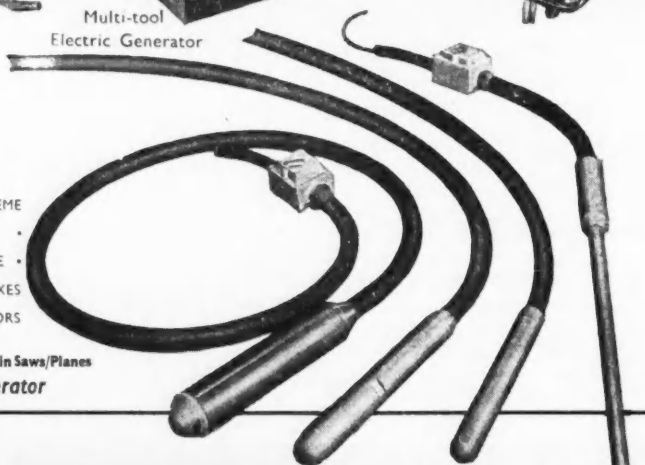
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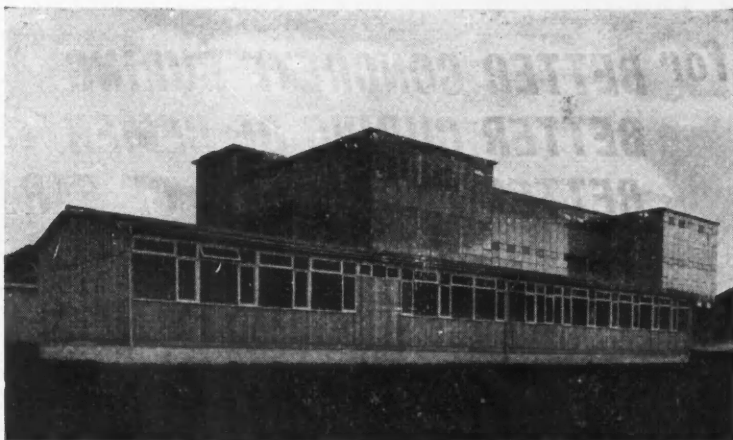
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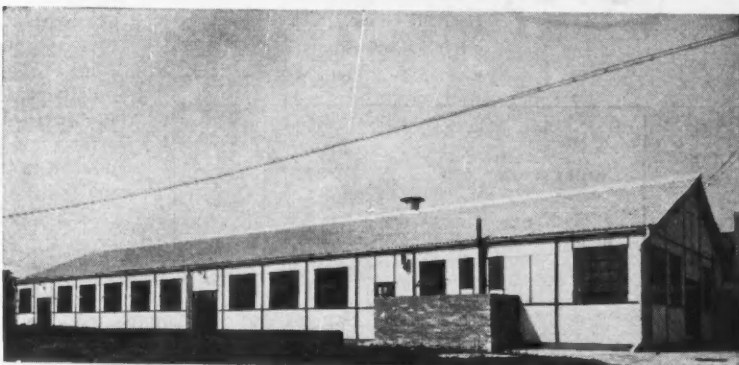
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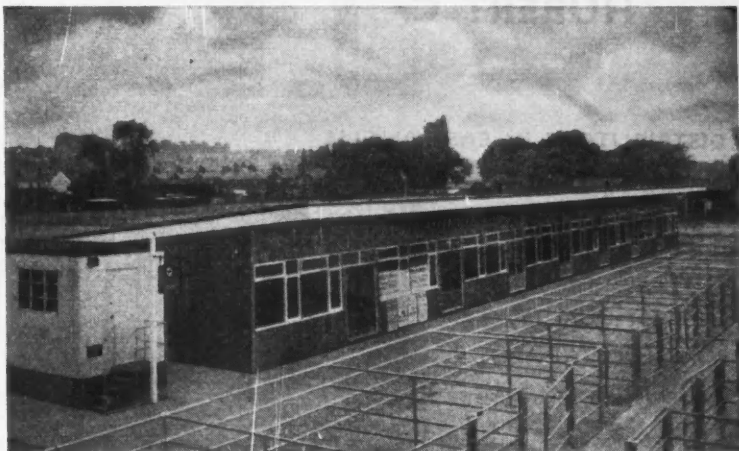
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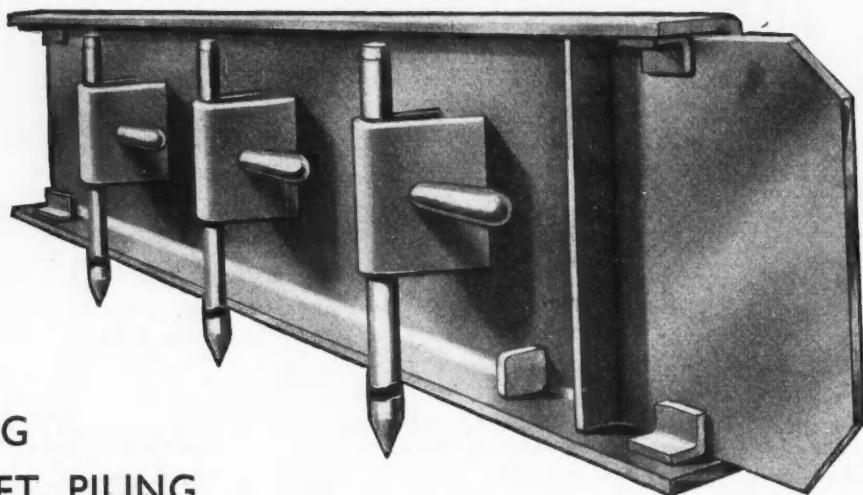
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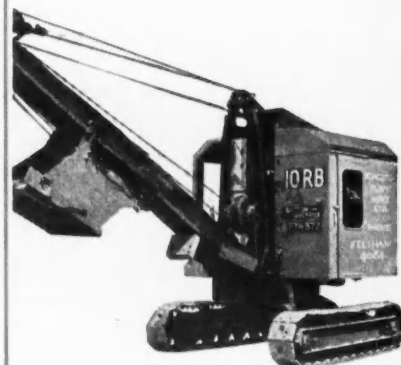


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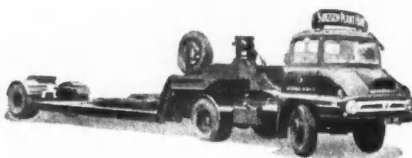
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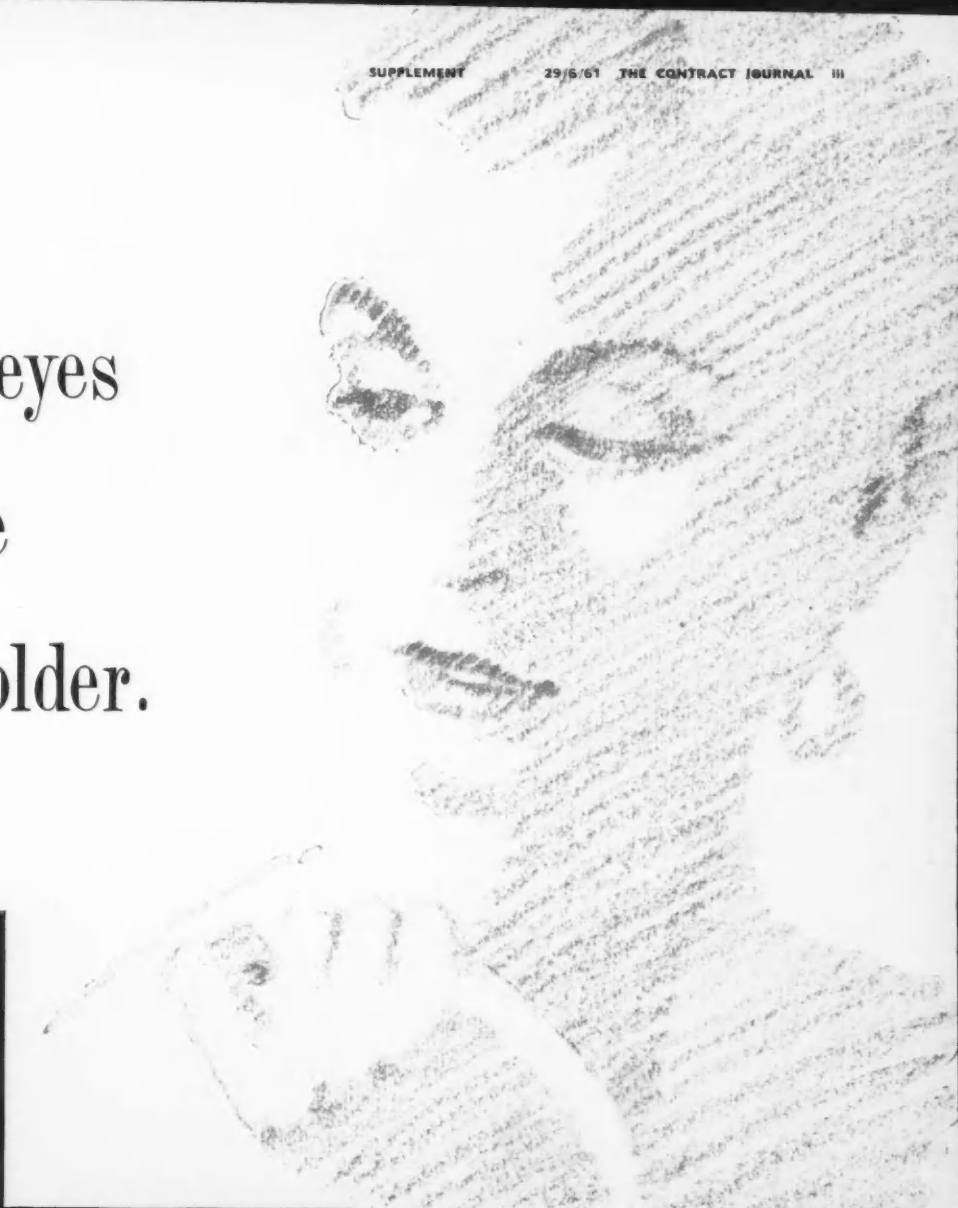
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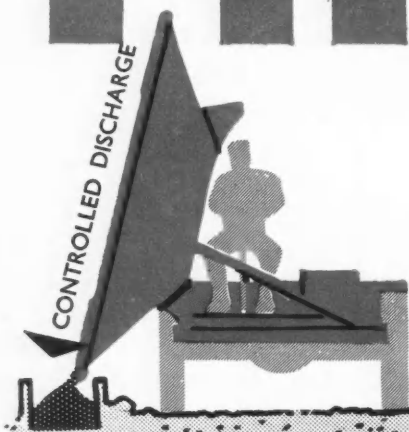
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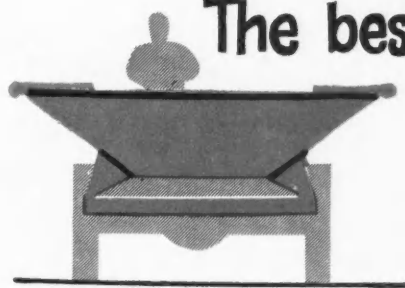
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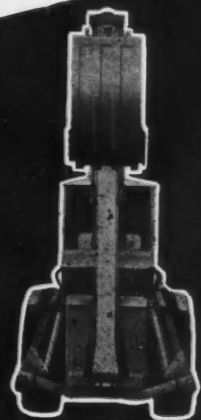
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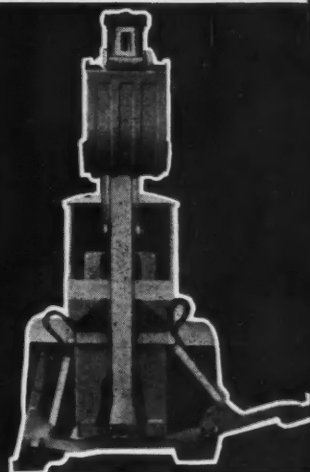
...with a Dinkum I can 'level up' from the Cab and so cut vertical trenches—no jumping in and out to level up by hand every time the slope varies and no question of riding or sliding back when I start digging... and, another thing, I can see straight down the trench from the central seat, essential when I'm digging house foundations... **THERE'S NOTHING TO COMPARE WITH A DINKUM.**

This photograph shows the wide 13' 6" spread of the stabilizers in the extended position.



6' 6"

Here the outriggers are shown in the transport position, overall width 6' 6"



10' 0"

Here one stabilizer foot is moved to the 'in' position for working close up to walls and the other raised to illustrate the large range of adjustment (3' 6") which is available for levelling up on slopes or uneven ground.



13' 6"

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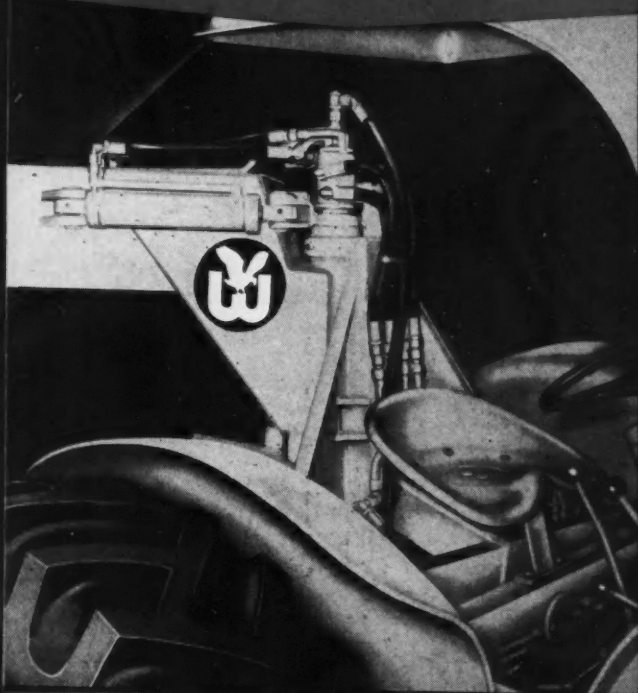
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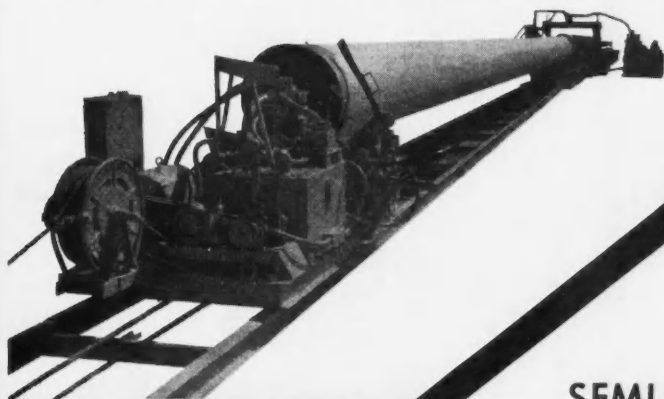
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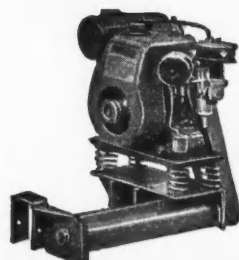
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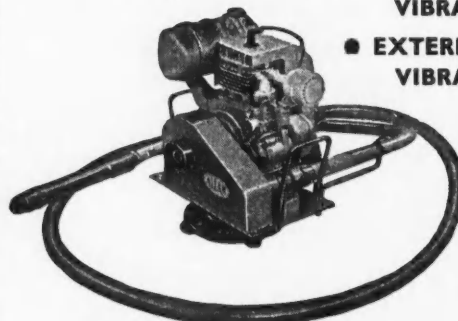
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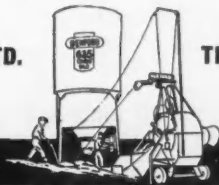
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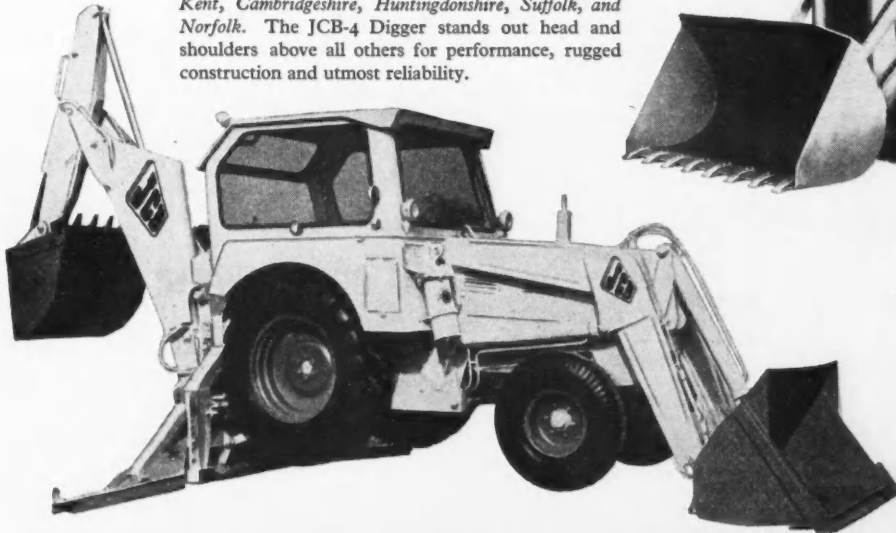
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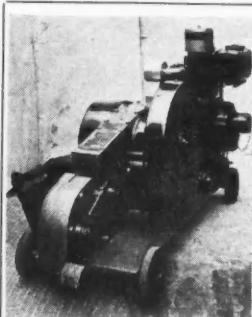
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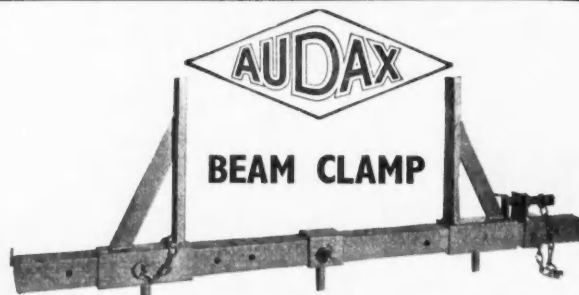
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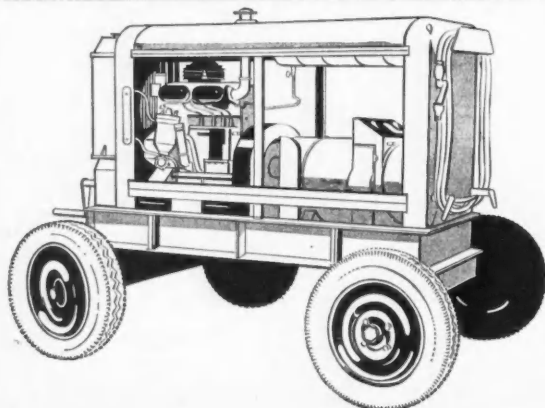
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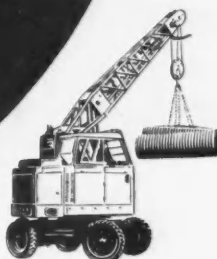
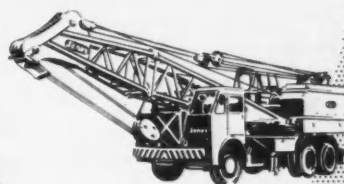
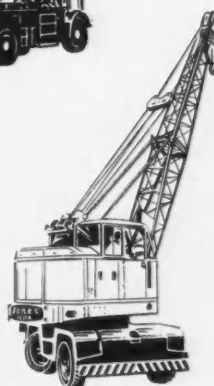
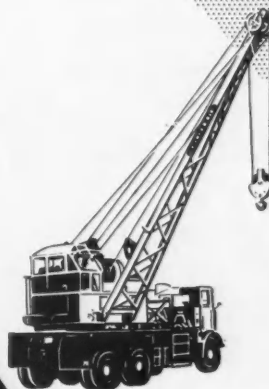
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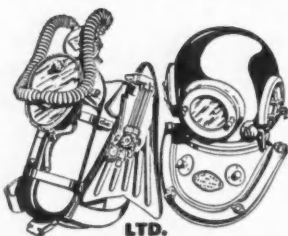
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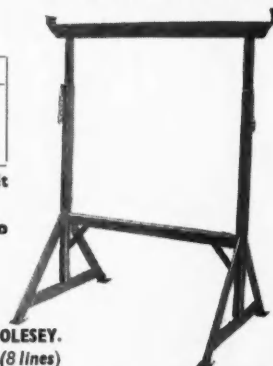
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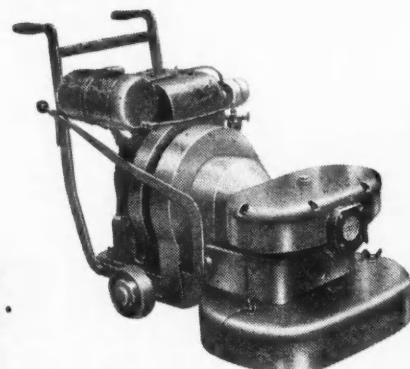


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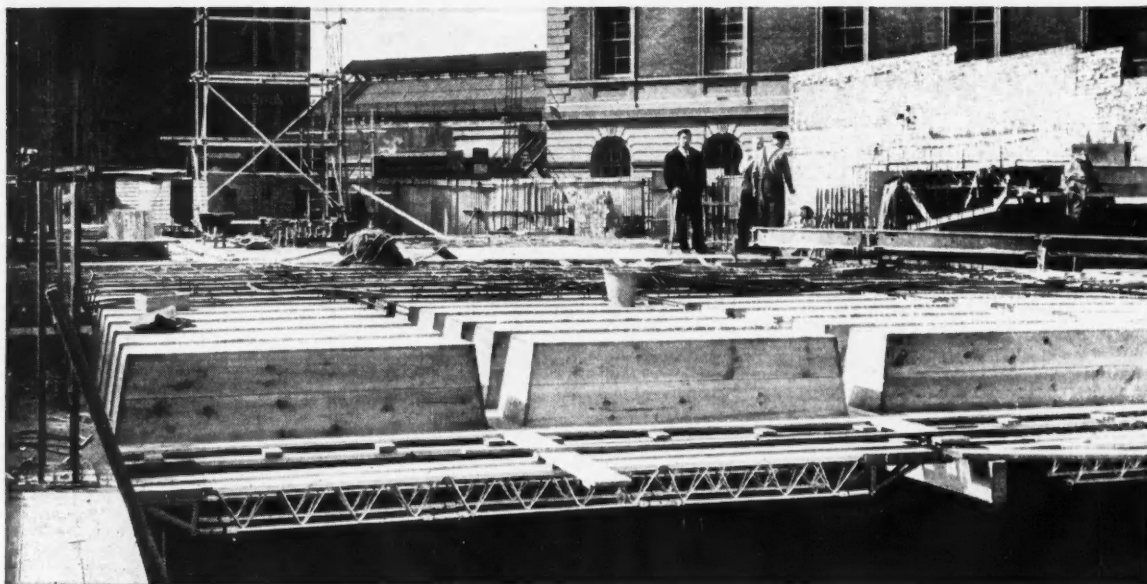
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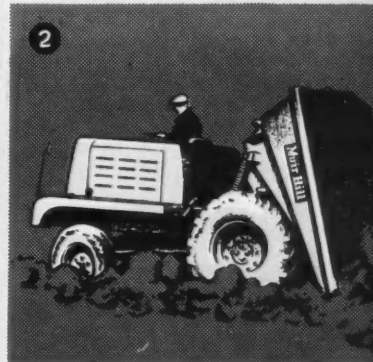
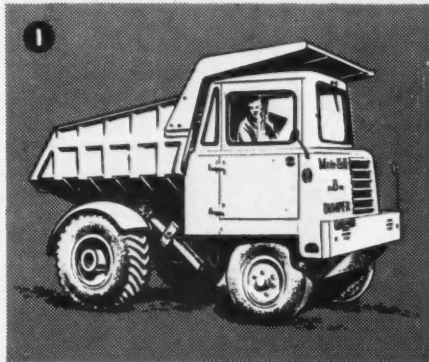
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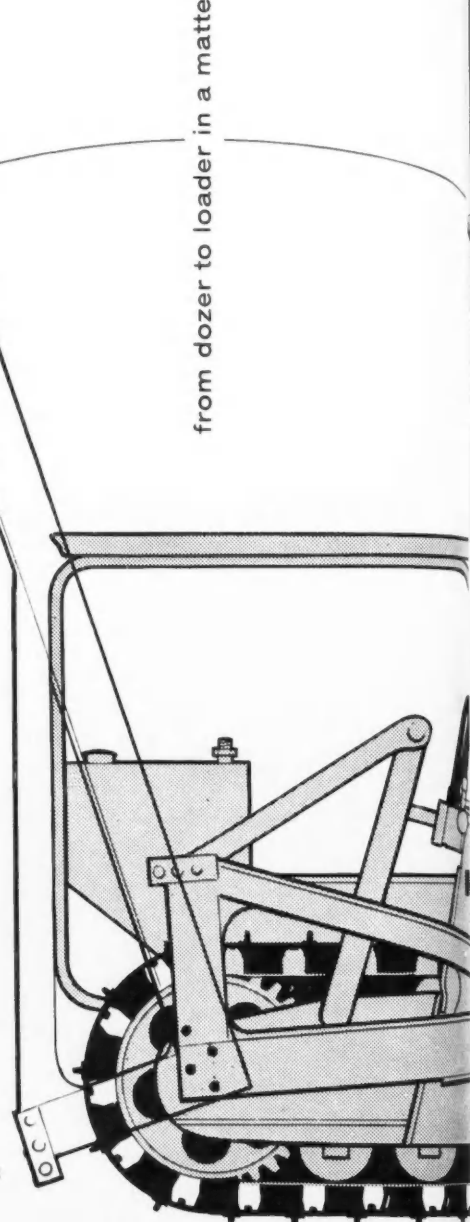


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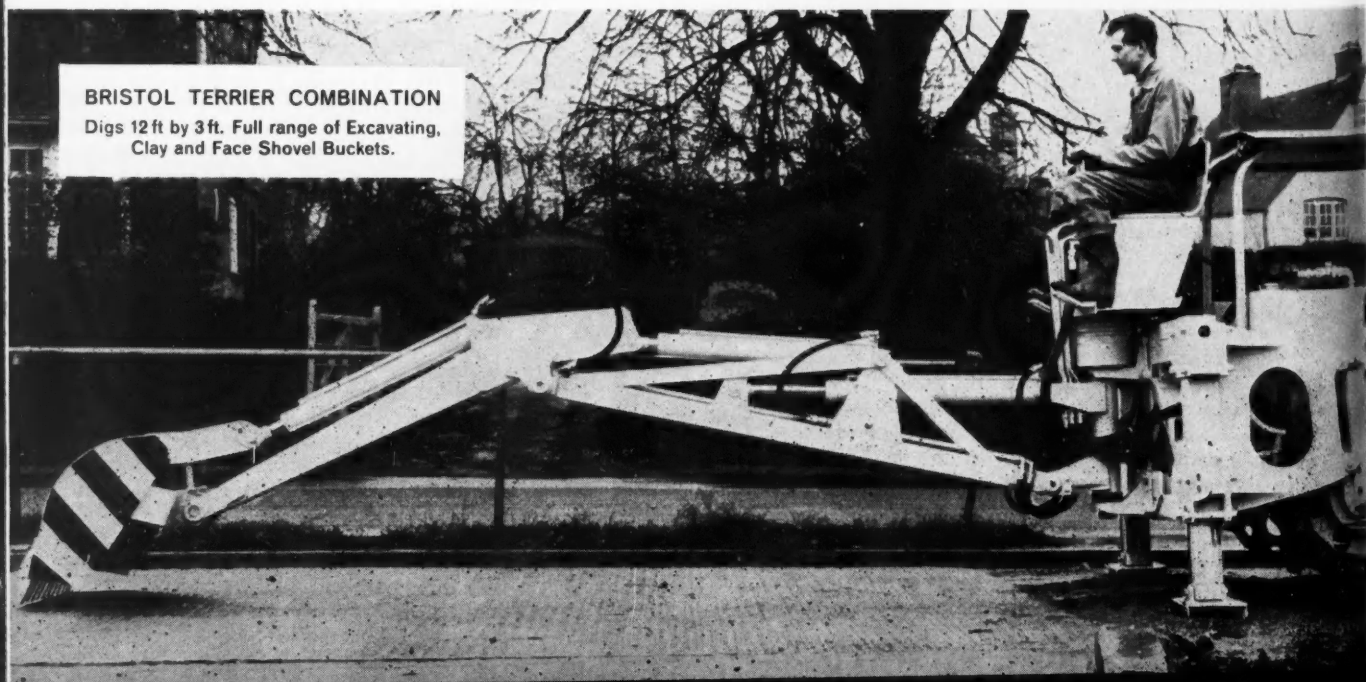
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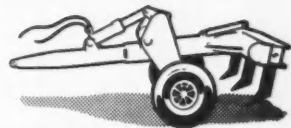


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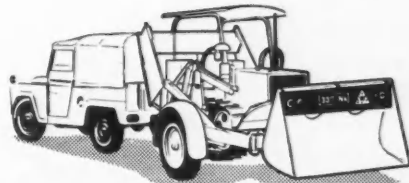
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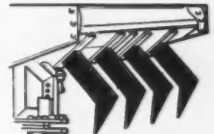
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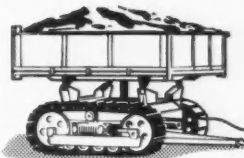
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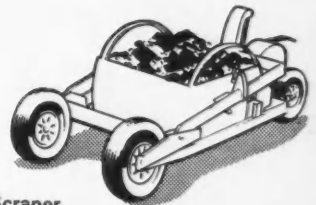
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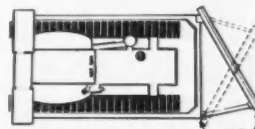
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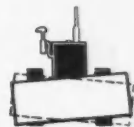
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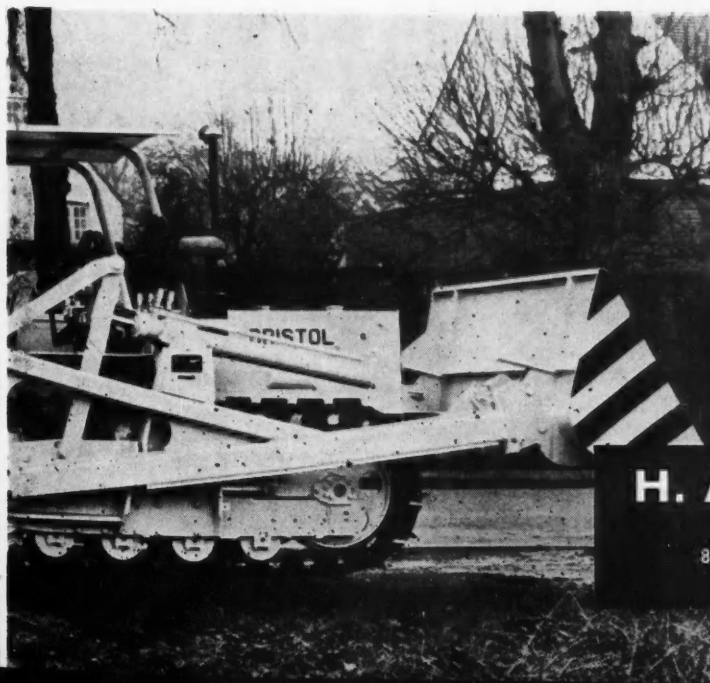
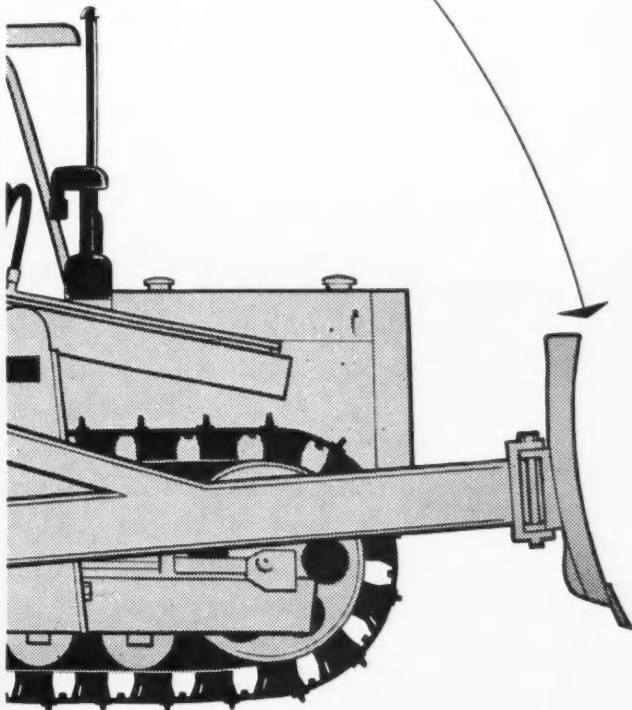
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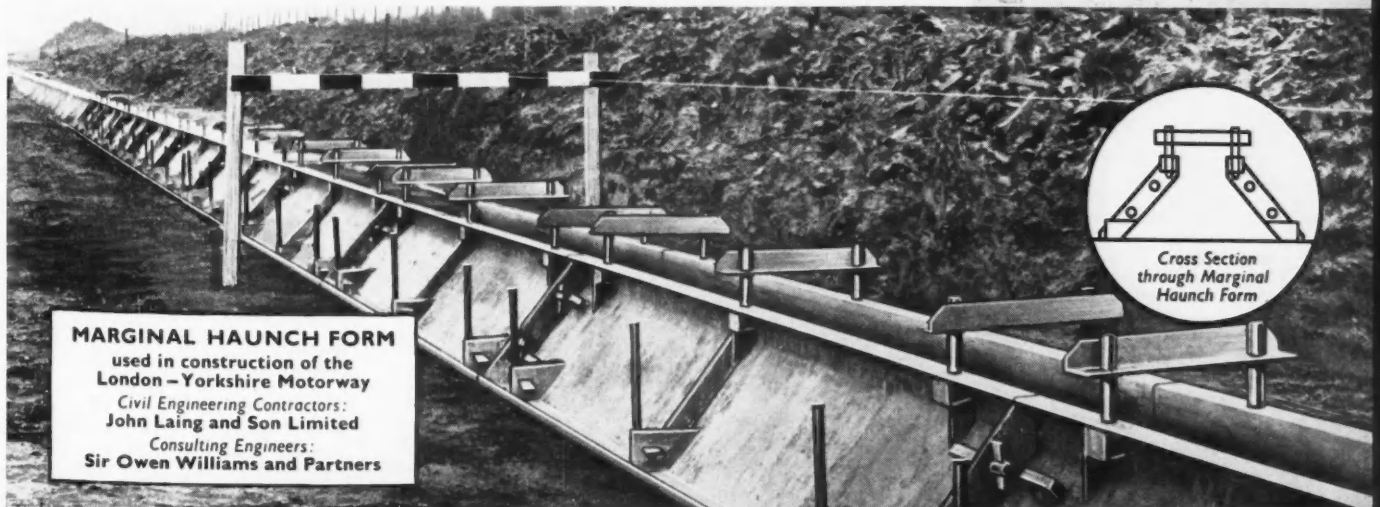
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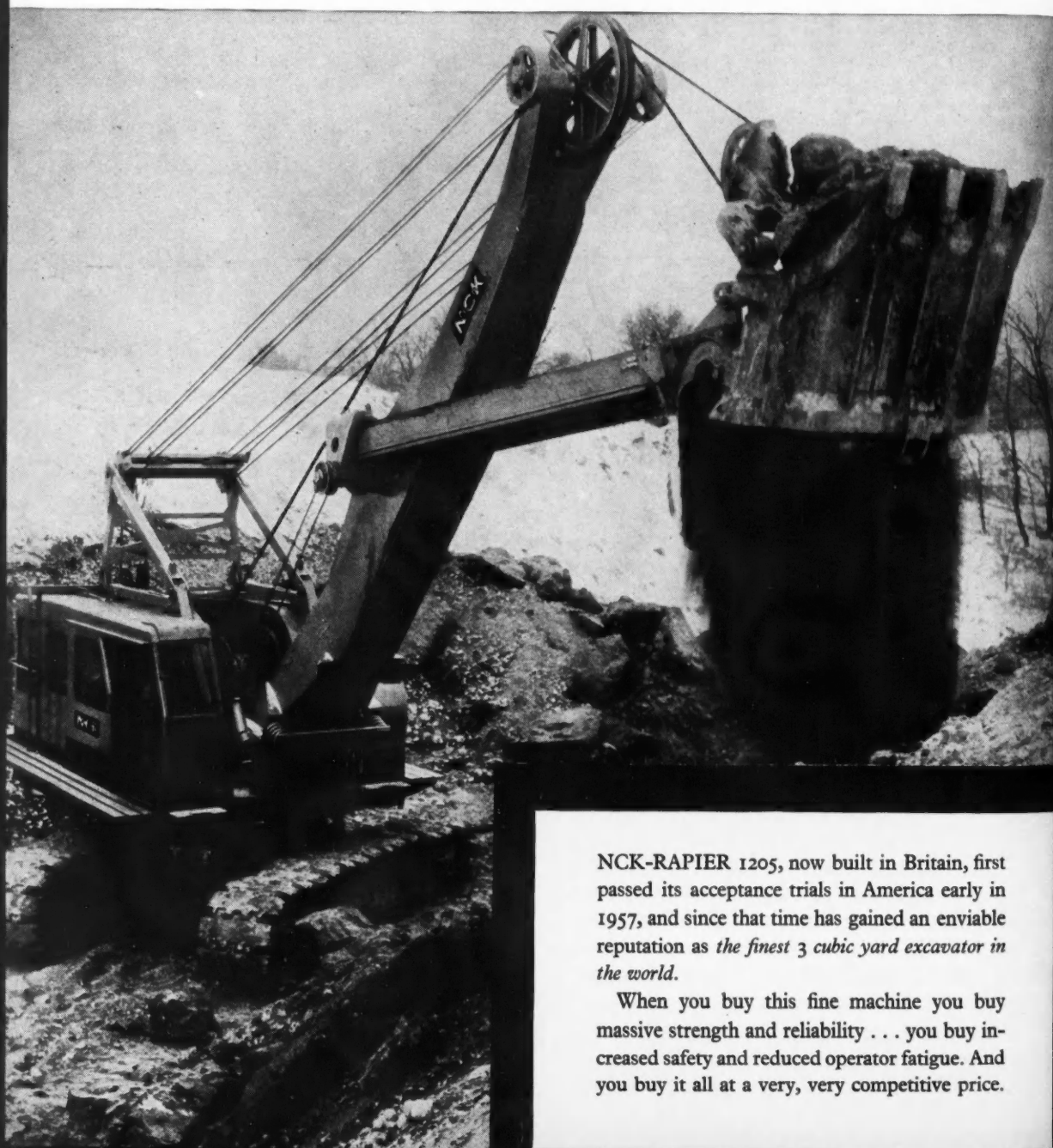
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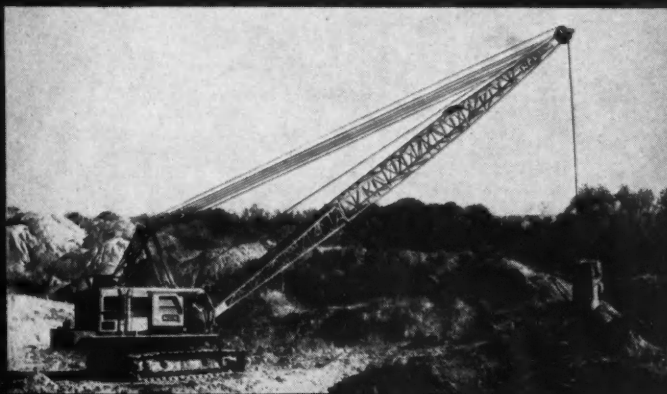
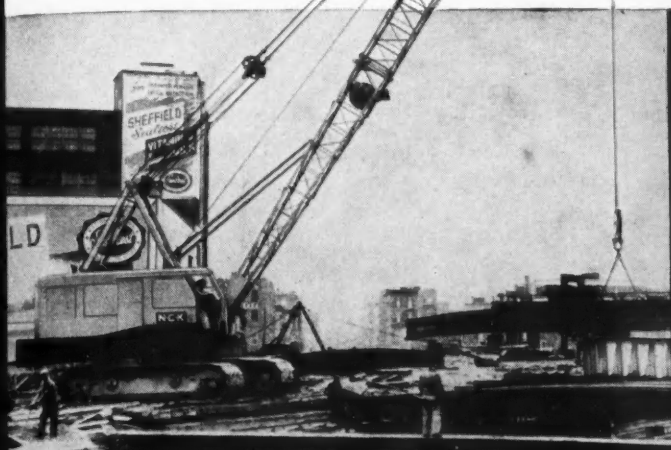
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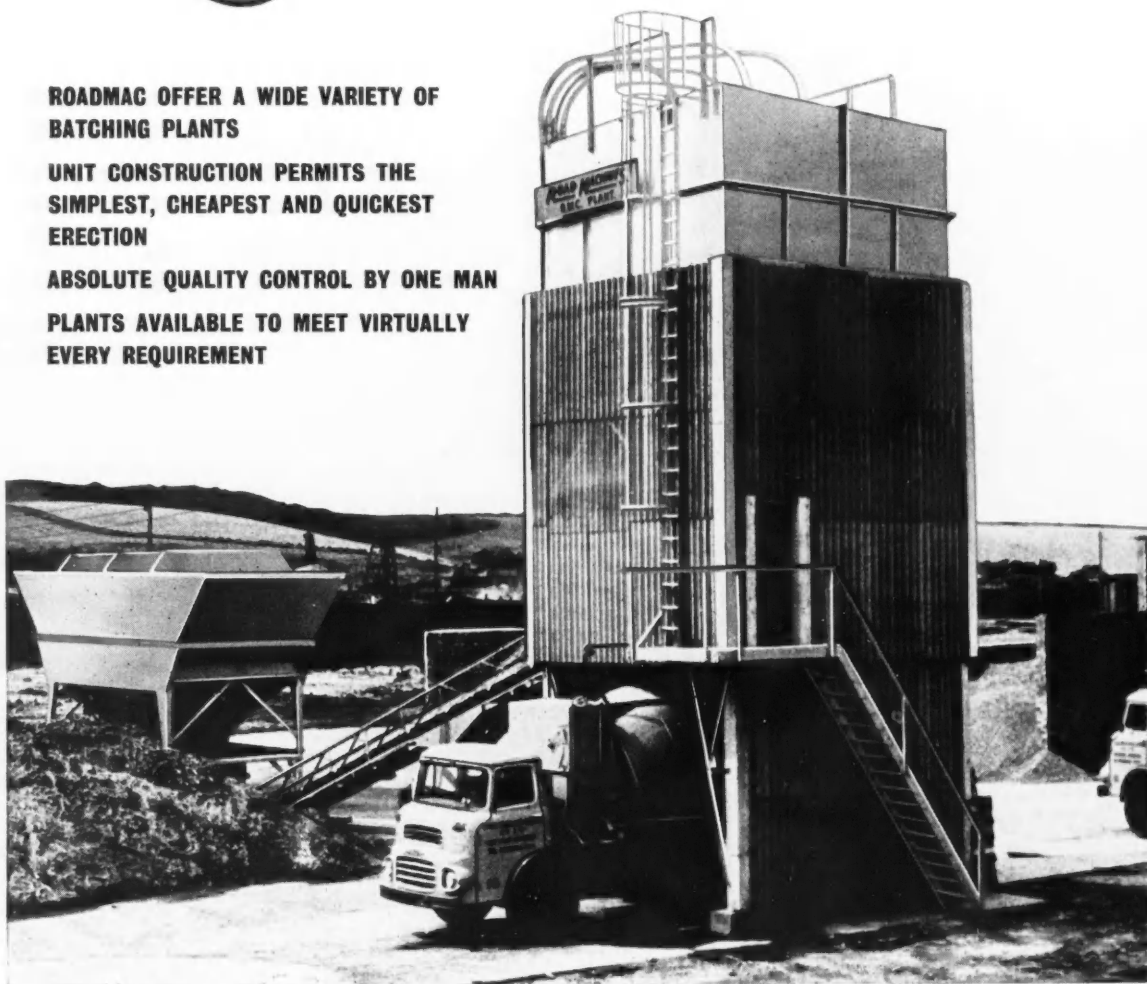
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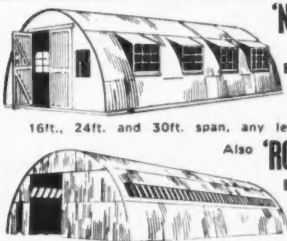
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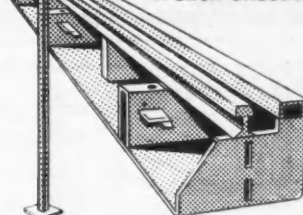
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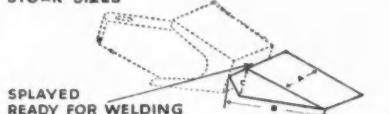
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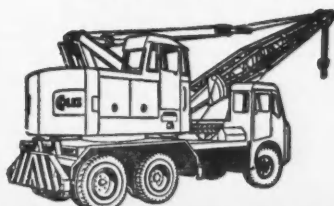
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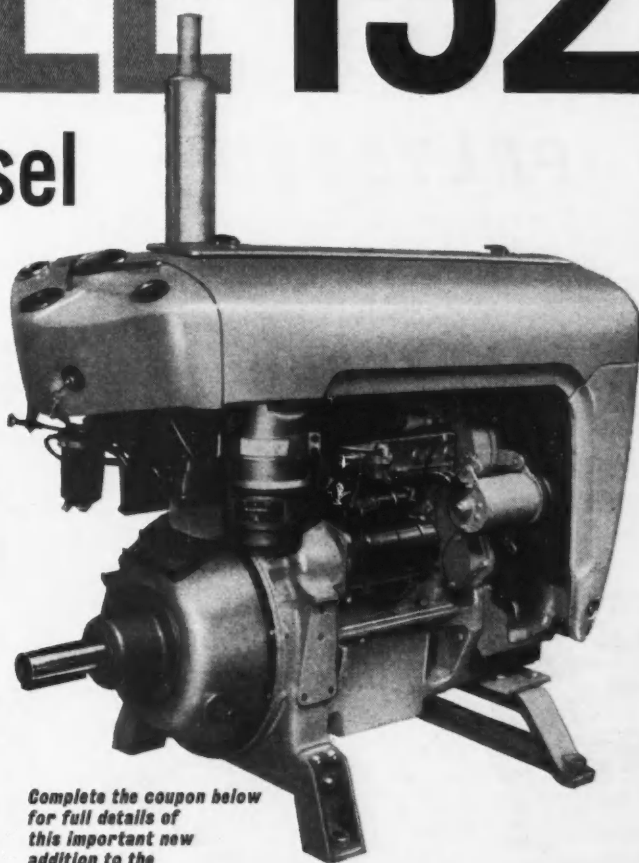
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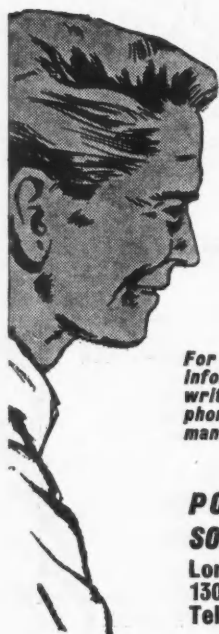
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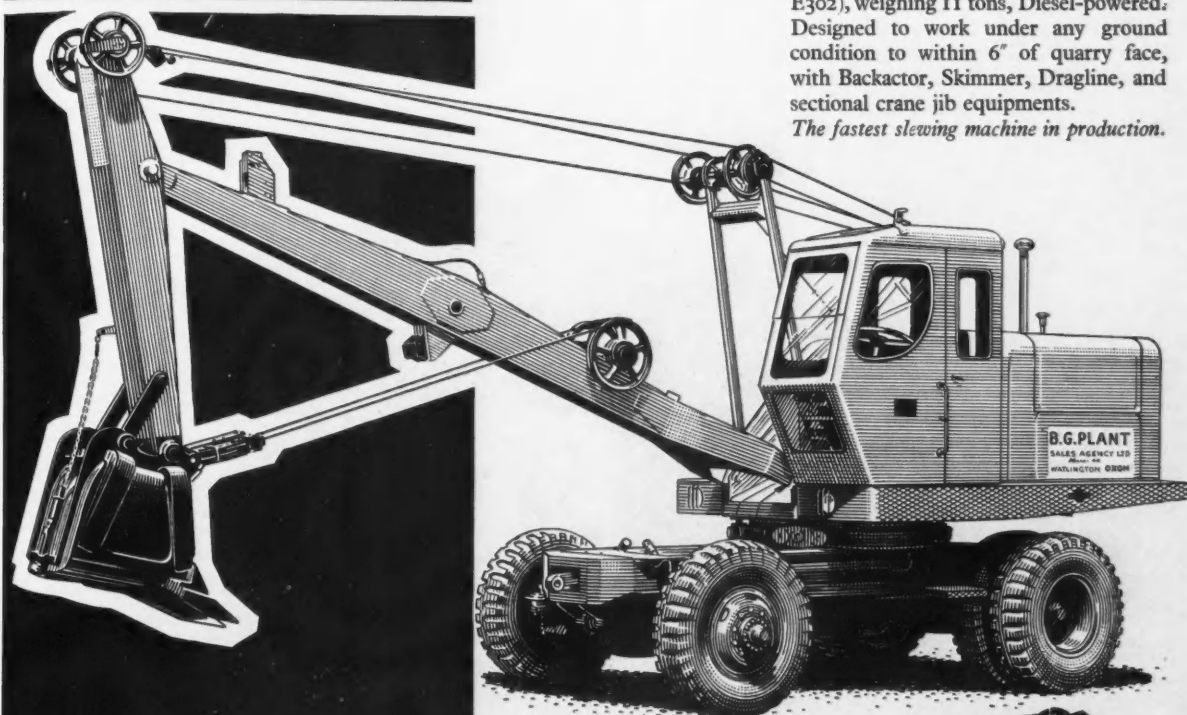
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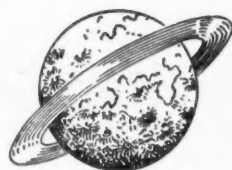
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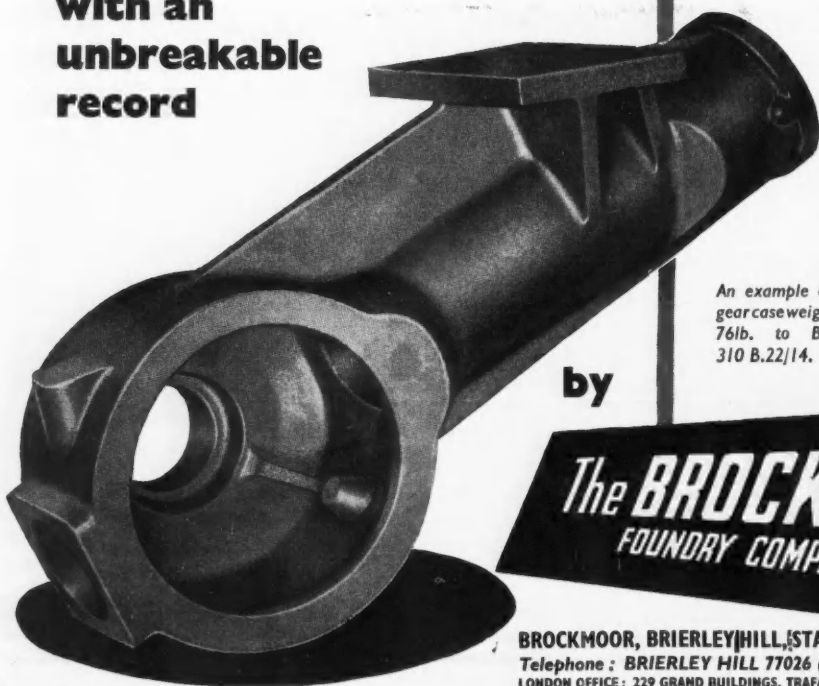
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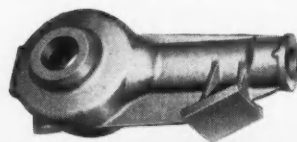
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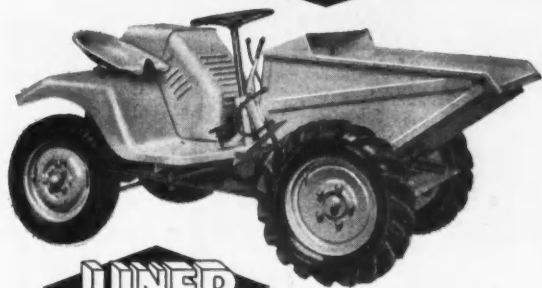
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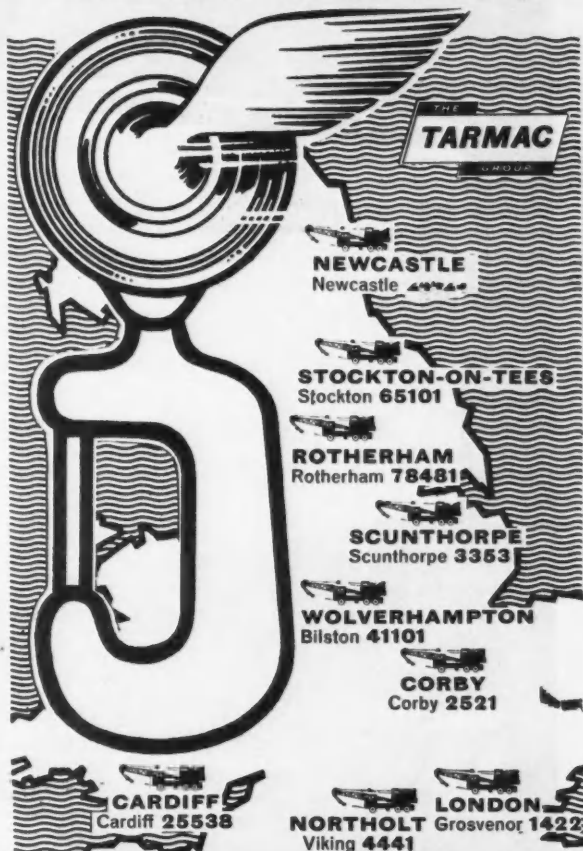
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268

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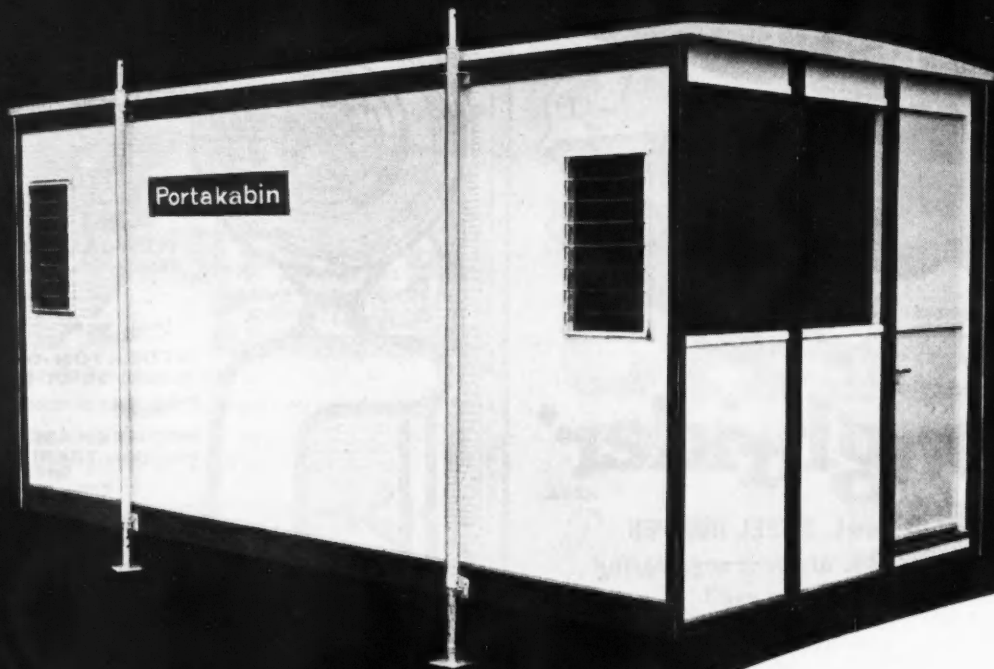
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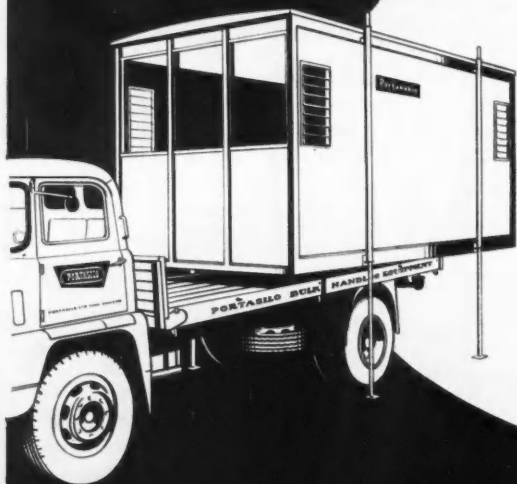
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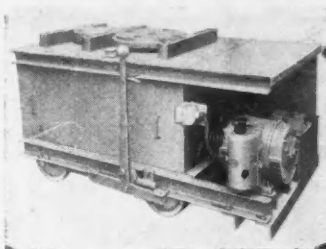
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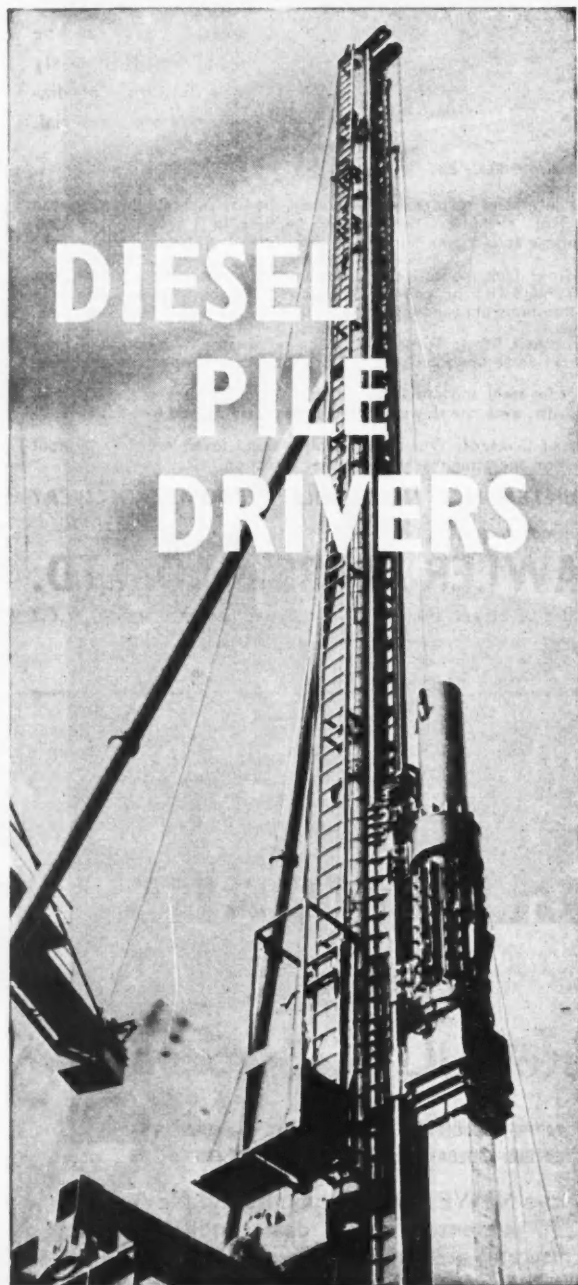
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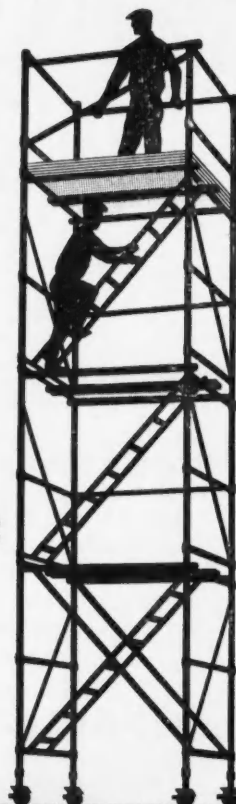
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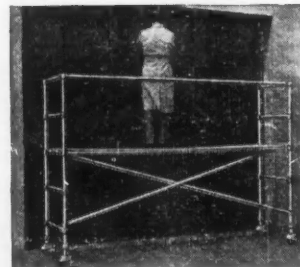
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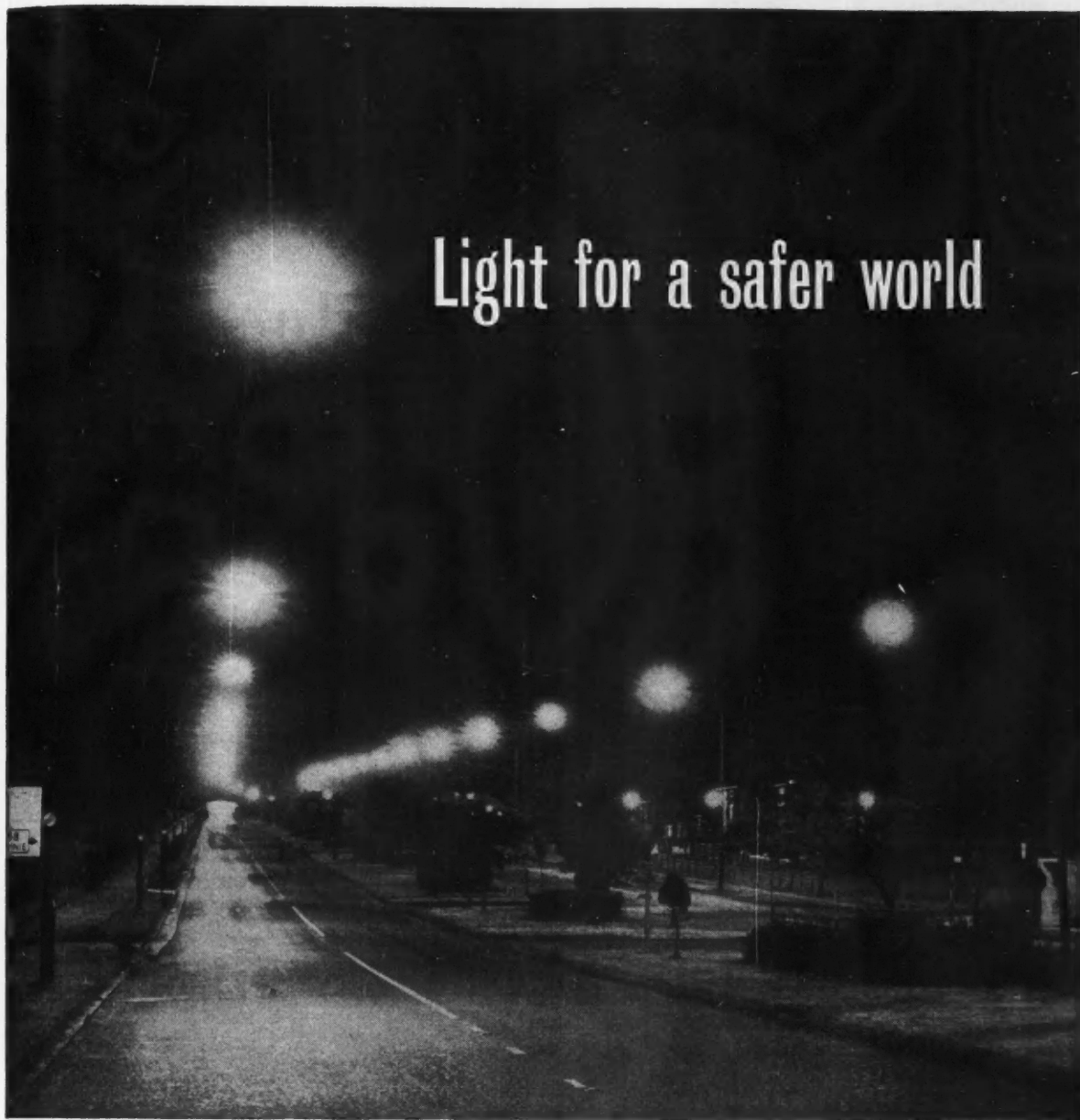


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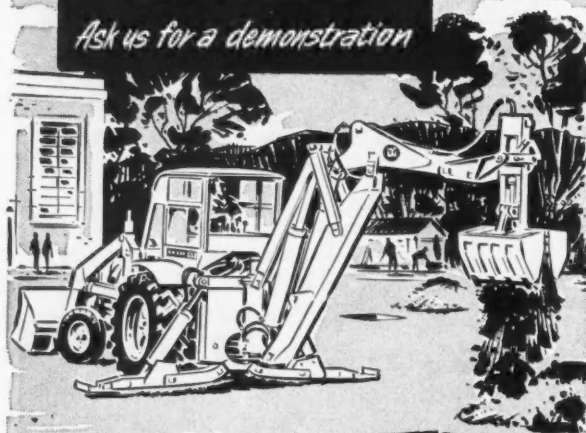
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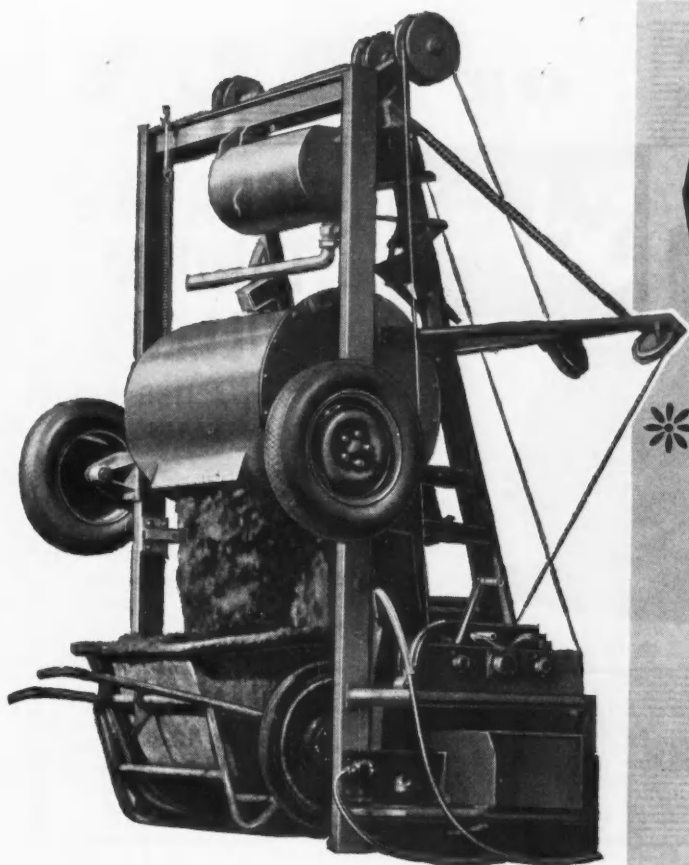


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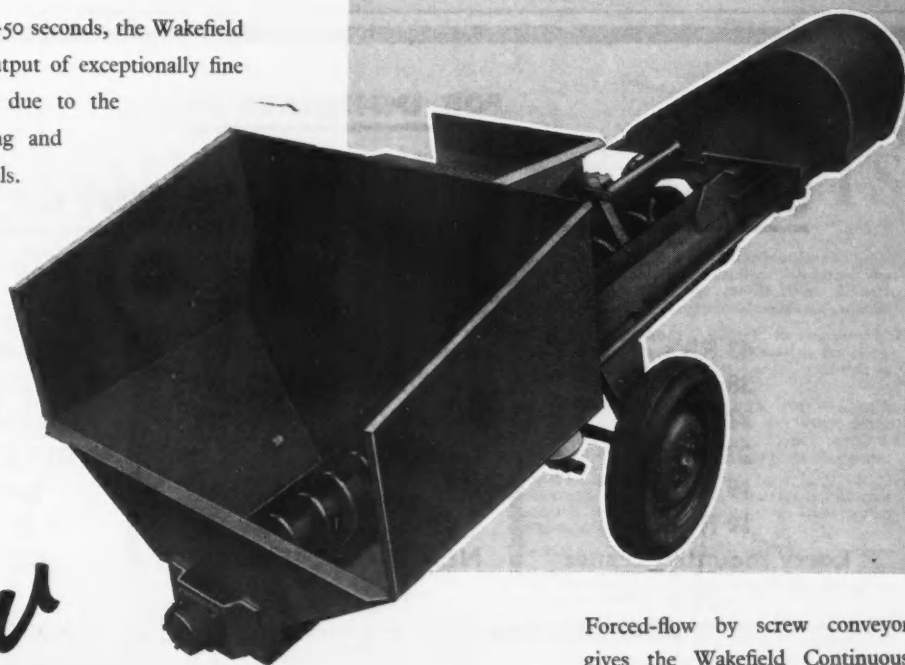
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Automatic Continuous Flow MIXER



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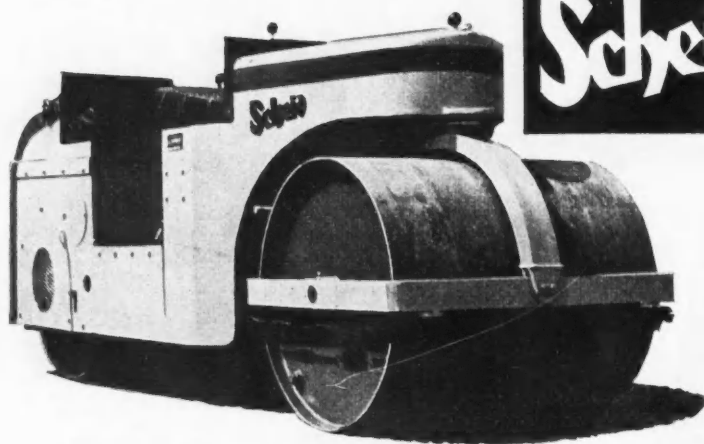
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Left:—Frodingham steel sheet piling, Section No. 1A, was used for the construction of this wharf at Hackney for W. Mallinson & Sons Ltd. Contractors: Samuel Williams & Sons Ltd.

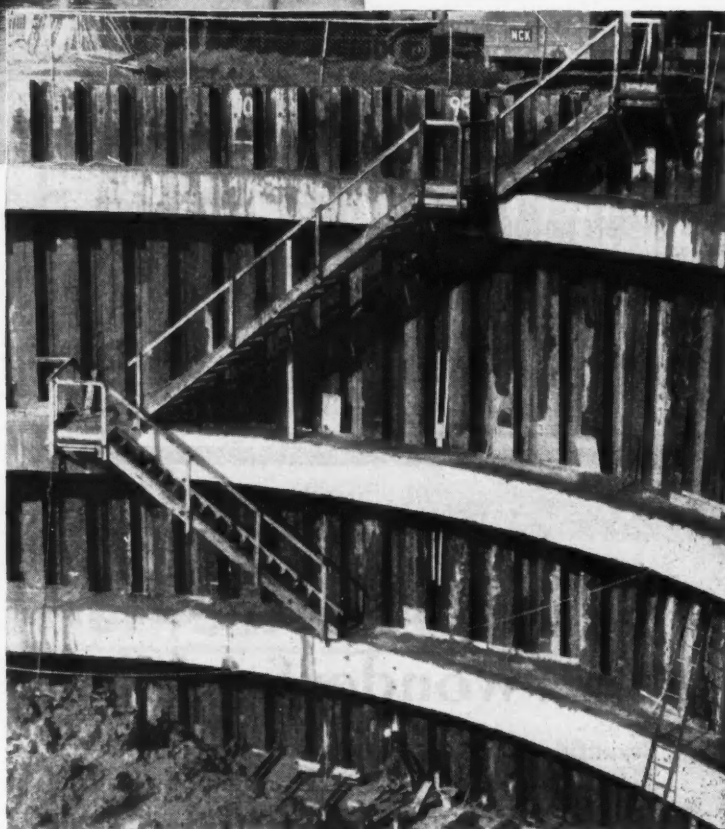
Right:—96 ft. diameter cofferdam for the Black Rock pumping station, Weston-super-Mare, constructed of 75 ft. lengths of Frodingham piling, Section No. 4, in medium tensile steel. Borough Engineer: J. R. Freer-Hewish, Esq., A.M.I.C.E., M.I.Mun.E. Contractors: C. V. Buchan & Co. Ltd.

FRODINGHAM steel sheet piling is equally suitable for maritime structures and river bank protection as it is for the construction of deep cofferdams and for enclosing excavations.

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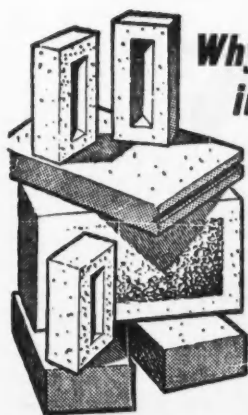
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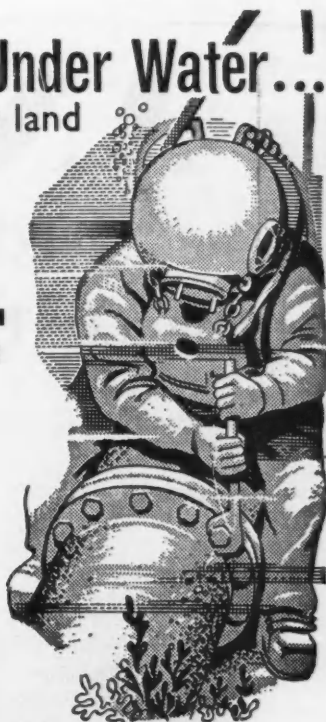


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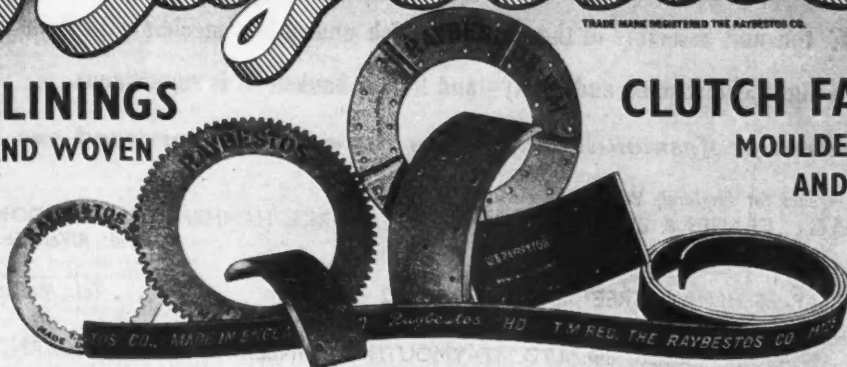
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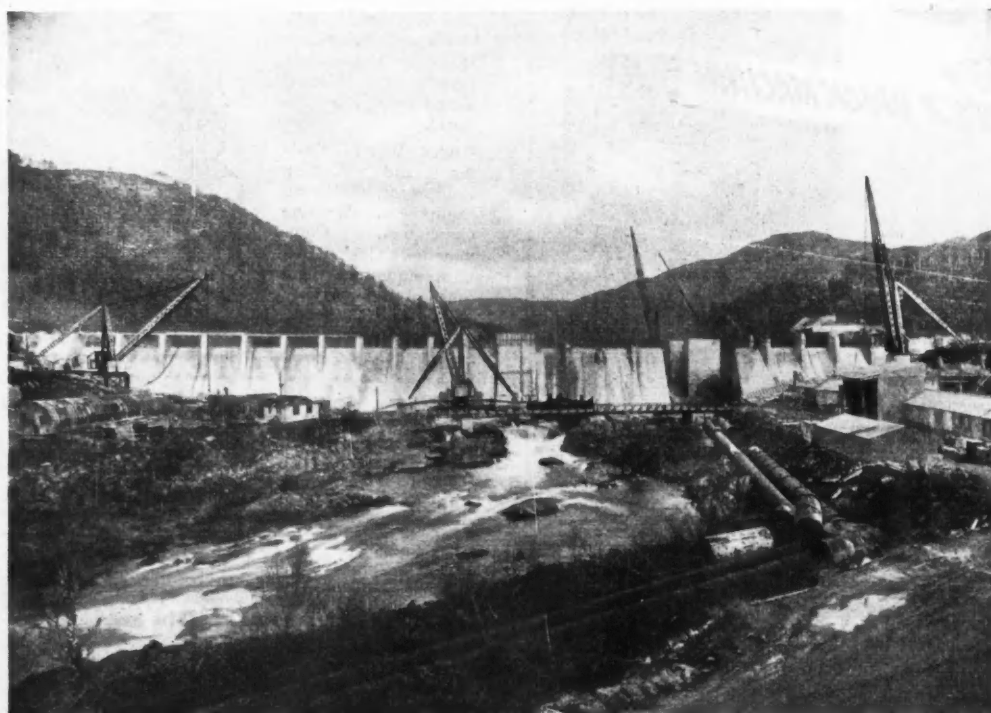
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CONTRACTS

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TENDERS are invited for the ABOVE WORKS, which comprise the Widening and Diversion of the existing Carriageway, and ancillary works. Approx. length 400 lin. yd.

Documents may be obtained from the County Surveyor, Dents Road, Bedford, on depositing Two Guineas which will be refunded on receipt of a bona-fide Tender.

Tenders should be returned, in the envelope provided, to arrive not later than 7th JULY, 1961.

GEORGE BREWIS,
Clerk of the County Council.

Shire Hall,
Bedford.

CITY OF WORCESTER.

TENDERS.

ADDITIONAL SANITARY ACCOMMODATION.

MALE HOUSE BLOCK, HILLBOROUGH.

TENDERS are invited for the ABOVE WORKS, which comprise the Erection and Completion of an Additional Sanitary Wing in Three-storey Block in traditional Brick Construction with Reinforced Concrete Floors and Roof, the Demolition of a Small Existing Toilet Block, and the Conversion of an Existing Toilet Accommodation into an Existing Wing.

Documents obtainable from City Engineer and Surveyor, 22 Bridge Street, Worcester, on deposit of Three Guineas (cheques payable to Worcester Corporation), which will be refunded after receipt of a bona-fide Tender and the return of Tender documents. Tenders must be posted to the Town Clerk, to arrive not later than THURSDAY, 13th JULY, 1961.

BERTRAM WEBSTER,
Town Clerk.

Guildhall,
Worcester.

CITY OF WORCESTER.

TENDERS.

ERECTION OF THREE BUNGALOWS AND SIX
GARAGES, DINES GREEN ESTATE.

TENDERS are invited for the ABOVE, in Traditional Brick Construction, together with External Services, Drains, etc.

Documents obtainable from City Engineer and Surveyor, 22 Bridge Street, Worcester, on deposit of Three Guineas (cheques payable to Worcester Corporation), which will be refunded after receipt of a bona-fide Tender and the return of Tender documents. Tenders must be posted to the Town Clerk, to arrive not later than MONDAY, 17th JULY, 1961.

BERTRAM WEBSTER,
Town Clerk.

Guildhall,
Worcester.

CITY OF WORCESTER.

SITE COMPLETION WORKS AT DENT CLOSE AND
ST. CATHERINES VALE HOUSING ESTATES.

FIXED-RATE TENDERS are invited for the ABOVE WORKS, which comprise the Completion of Roads, Footways and Turfed Areas.

Documents obtainable from the City Engineer and Surveyor, 22 Bridge Street, Worcester, upon payment of a Two Guinea deposit, which will be returned on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes, to be posted to reach the undersigned not later than MONDAY, 17th JULY, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

BERTRAM WEBSTER,
Town Clerk.

Guildhall,
Worcester.

CITY OF CAMBRIDGE.

CHESTERTON LANE IMPROVEMENT.

TENDERS are invited for the IMPROVEMENT OF CHESTERTON LANE, at the Junction with Castle Hill. The Work consists of the Demolition of the Existing Brick Wall and Construction of approximately 100 lin. yd. of a New Mass Concrete and Brick Retaining Wall, the Construction of approximately 350 sq. yd. of New Footpath and approximately 375 sq. yd. of Carriageway, together with other ancillary works.

The Bills of Quantities, Specification and Conditions of Contract may be obtained from the City Engineer and Surveyor, The Guildhall, Cambridge, on a deposit of Three Guineas. The deposit will be returned on the receipt of a bona-fide Tender.

Tenders must be delivered to the Guildhall, Cambridge, in the official envelope provided, not later than 3 p.m. on THURSDAY, 13th JULY, 1961.

The lowest or any Tender will not necessarily be accepted.

ALAN H. I. SWIFT,
Town Clerk.

The Guildhall,
Cambridge,
June, 1961.

BEACONSFIELD URBAN DISTRICT
COUNCIL.

HOUSING SCHEME NO. 19.

CONSTRUCTION OF ROADS AND FOOTPATHS—
THE FERNS, LONDON END, BEACONSFIELD.

TENDERS are invited for the ABOVE-MENTIONED WORKS, which include: (a) the Widening of approx. 85 lin. yd. of existing Carriageway; (b) the Construction of approx. 170 lin. yd. of New Carriageway—Hardcore Base—together with all ancillary Footpath and Drainage Works; and (c) the Construction of approx. 210 lin. yd. of 6in. dia. G.S.W. Foul and Surface Water Sewers.

The site lies for the most part in the grounds of a property known as The Ferns, and in gardens of some existing council houses adjacent thereto.

Copies of the Specification, Bill of Quantities, etc., and the Drawings may be obtained from the undersigned on receipt of a deposit of Two Guineas which will be refunded on receipt of a bona-fide Tender.

All Tenders must be returned to the Clerk of the Council at the address below by 12 Noon on MONDAY, 17th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

F. V. HARRIS, A.M.I.Mun.E.,
Engineer and Surveyor.

Council Hall,
Penn Road,
Beaconsfield,
Eicks,
13th June, 1961.

CONTRACTS

COUNTY COUNCIL OF ESSEX.

HIGHWAYS DEPARTMENT.

RECONSTRUCTION OF WOODFORD BRIDGE.

TENDERS are invited for the RECONSTRUCTION OF WOODFORD BRIDGE, over the RIVER RODING. The work will include the Construction of a New Prestressed Concrete Bridge and the Demolition of the existing Brick Arch Bridge.

Tender documents may be obtained from the County Surveyor, Old Court, Chelmsford, on payment of deposit of £5 which will be refunded only if a bona-fide Tender is received and not subsequently withdrawn, and if all the documents are returned. Tenders must be submitted, in the envelope provided, not later than 12 Noon on FRIDAY, 28th JULY, 1961.

The Council does not bind itself to accept the lowest or any Tender it may receive.

CHRISTIAN BERRIDGE,
Clerk of the County Council.

County Hall,
Chelmsford.

BOROUGH OF WREXHAM.

BUS DRAW-IN AND SERVICE ROAD.

CHESTER ROAD AND KENYON AVENUE.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION of a 'BUS DRAW-IN AND SERVICE ROAD, together with Kerbing and Footpath Works. Drawings and General Conditions of Contract may be inspected, and Specification, Bills of Quantities and Forms of Tender obtained from the Borough Engineer and Surveyor, Guildhall, Wrexham, on payment of deposit of £2 2s. which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders must be sealed and delivered to the undersigned by 12 Noon, THURSDAY, 6th JULY, 1961.

The Council does not bind itself to accept the lowest or any Tender.

PHILIP J. WALTERS,
Town Clerk.

Guildhall,
Wrexham,
June, 1961.

BOROUGH OF BEXLEY.

SURFACE WATER SEWER WORKS.

TENDERS are invited for the LAYING OF SURFACE WATER SEWERS at LION ROAD, HEATHFIELD ROAD, IZANE ROAD and FRET ROAD, Bexleyheath, and ancillary works. The Sewers (Glazed Stoneware and Concrete Tubes) will extend for a total length of approx. 1,200 yd., varying between 9in. and 21in. dia.

Drawings may be seen at, and Tender documents obtained from, the Office of the Borough Engineer, West Lodge, Bexleyheath, Kent, on payment of a deposit of £2 2s. (by crossed cheque payable to Bexley Corporation) which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders must be delivered to the undersigned at the Council Offices, Bexleyheath, Kent, not later than 10th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

ARTHUR GOLDFINCH,
Town Clerk.

URBAN DISTRICT OF BROWNHILLS.

GROUP "A" LIGHTING SCHEMES.

(A) WATLING STREET, BROWNHILLS, A.S.
(B) BROWNHILLS ROAD, HEDNESFORD ROAD, WALSALL ROAD AND BURNWOOD ROAD, NORTON CANES.

FIXED-PRICE TENDERS are invited for the ABOVE, which, in the case of Scheme (A), comprises the Supply, Erection and Wiring-up complete of 33 200-W Sodium Lamps on, and including, 30ft. mounting height Steel Columns; and, in the case of Scheme (B), the Supply, Erection and Wiring-up complete of 62 250-W Mercury Vapour Discharge Lamps on, and including, 25ft. mounting height Concrete Columns. Documents may be obtained from the Council's Engineer and Surveyor, CHARLES H. HUNT, A.M.I.Mun.E., Coombe House, Brownhills, Staffs., upon receipt of a deposit of £2 2s. which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelopes endorsed "Street Lighting, 1961," are to be received by the undersigned not later than First Post on MONDAY, 3rd JULY, 1961.

NORMAN WAINE,
Clerk of the Council.

Council Offices,
Brownhills,
Staffs.,
12th June, 1961.

GUILDFORD RURAL DISTRICT COUNCIL.

APPLICATIONS are invited from contractors wishing to receive Specification for MODERNISATION of 12 (Nos. 1-12 inclusive) HOUSES at CLASFORD COTTAGES, Worplesdon.

Specification and Form of Tender may be obtained from the Housing and Valuation Officer on payment of a deposit of £2 2s., returnable upon receipt of a bona-fide Tender. Cheques should be made payable to the Guildford R.D.C. and sent to the Housing and Valuation Officer.

Tenders, in the endorsed envelopes provided, are to be returned to the undersigned not later than 9.30 a.m. on MONDAY, 10th JULY, 1961.

E. W. SELLINGS,
Clerk of the Council.

Millmead House,
Guildford,
14th June, 1961.

CHESHIRE CONSTABULARY.

The POLICE AUTHORITY will consider in October, 1961, applications from firms who wish to be included in the list of those to whom TENDER FORMS will be sent for the SUPPLY of the FOLLOWING:

Policemen's and Policewomen's Summer and Winterweight Uniforms, Greatcoats, Capes, Caps, Shirts, Collars, Shirt Epaulettes, Black Ties, Gloves (cotton and leather), Gableline Raincoats and Mackintoshes, Waterproof Leggings, Stockings, Medal Ribbons and Chevrons.

It is intended that Tender Forms will be sent to those firms requesting inclusion on the list for supplies for the years 1962, 1963 and 1964.

Applications should reach this Office by 15th JULY, 1961.

G. E. BANWELL,
Chief Constable of Cheshire.

County Police Headquarters,
142 Foregate Street,
Chester.

CONTRACTS

BUCKS. COUNTY COUNCIL.

HIGHWAYS ACT, 1959—THE CODE OF 1992.

MEADOW WAY, DORNEY.

TENDERS are invited for the MAKING-UP of the ABOVE STREET. Specification, Form of Tender and Contract and Bill of Quantities may be obtained from the County Surveyor, County Offices, Aylesbury. Applications must be accompanied by a remittance for £2, which will be refunded on receipt of a bona-fide Tender.

Sealed Tenders must be delivered to the undersigned by MONDAY, 10th JULY, 1961, in the envelope provided, endorsed "Private Street Works—Meadow Way," but not bearing any name or mark indicating the sender.

The Council do not bind themselves to accept the lowest or any Tender.

R. E. MILLARD,
Clerk of the Bucks. County Council.

County Hall,
Aylesbury,
June, 1961.

BUCKS. COUNTY COUNCIL.

HENLEY-MARLOW ROAD, A.4155.

ROADWORKS FROM HARE AND HOUNDS PUBLIC
HOUSE TO BORLASES SCHOOL, MARLOW.

TENDERS are invited for ROADWORKS (approximately 2½ miles), comprising Realignment of Carriageway, Earthworks, Kerbing, Channelling, Rolled Concrete Foundation, Tarmacadam Shaping, Drainage, Footpaths, and ancillary works.

Drawings may be seen at the offices of the Divisional Road Surveyor, 164 West Wycombe Road, High Wycombe. Contract documents may be obtained from the County Surveyor, County Offices, Aylesbury, on payment of a deposit of £2, returnable on receipt of a bona-fide Tender.

Tenders must be received by me by 10 a.m. on MONDAY, 17th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

R. E. MILLARD,
Clerk of the Council.

County Hall,
Aylesbury,
June, 1961.

WARWICKSHIRE COUNTY COUNCIL.

ROADS COMMITTEE.

HIGHWAYS ACT, 1959.

PRIVATE STREET WORKS.

NEW STREET (PART) TWO GATES.

TENDERS are invited for the MAKING-UP of NEW STREET (PART) TWO GATES, which is situated ½-mile from Watling Street.

The section of the street to be made up is about 80 yd. in length and 40ft. wide, and includes the storm drainage of both New Street and Mount Pleasant. The work consists of Excavation and the Construction of a 16ft. Tarmacadam Carriageway, Kerbing, two 6ft. Footpaths, Shale Verges, Drainage, and incidental works.

The General Conditions of Contract, Specification and Drawings may be inspected at the Office of the County Surveyor, Shire Hall, Warwick, during ordinary office hours. Copies of the Form of Tender and Bill of Quantities may be obtained from the same office on payment of a deposit of £2 2s. which will be returned upon receipt of a bona-fide Tender.

The Council do not bind themselves to accept the lowest or any Tender.

Tenders, sealed in an envelope provided, must reach the Office of the County Surveyor not later than the First Post on WEDNESDAY, 19th JULY, 1961.

L. EDGAR STUBBS,
Clerk of the Council.

Shire Hall,
Warwick,
June, 1961.

CANVEY ISLAND URBAN DISTRICT
COUNCIL.

PUMPING MAINS.

CONTRACT REF. 142A.

The Council invite FIXED-PRICE TENDERS for the SUPPLY, EXCAVATION for LAYING and JOINTING of approximately 1,400 yd. of 24in. diameter SPUN-IRON PIPES, together with Cathodic Protection and incidental and ancillary works.

Copies of the General Conditions, Specification and Bill of Quantities may be obtained from the Consulting Engineers, MESSRS. SANDFORD FAWCETT AND PARTNERS, 53 Victoria Street, Westminster, S.W.1, on receipt of a cheque for Five Guineas made payable to the Council. The deposit will be refunded on receipt of a bona-fide Tender.

Sealed Tenders, endorsed "Tender for Contract 142A," should reach the undersigned not later than Noon on the 1st AUGUST, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. RUMBLE,
Clerk of the Council.

Council Offices,
Canvey Island,
Essex.

HEMSWORTH JOINT WATER
COMMITTEE.

WATER SUPPLY EXTENSIONS—PART 4.

FITZWILLIAM WATER SUPPLY.

CONTRACT NO. 3.

The COMMITTEE invite FIXED-PRICE TENDERS from experienced contractors for the CONSTRUCTION of approx. Two Miles of 8in. dia. SPUN-IRON CONCRETE LINED WATER MAIN, together with the necessary Fittings, etc., within the Hemsworth Urban District in the West Riding of Yorkshire.

Specifications, Bills of Quantities and Form of Tender may be obtained from the Offices of the Engineers, MESSRS. WILLCOX, RAIKES AND MARSHALL, 33 Great Charles Street, Birmingham, 3, on or after Monday, 26th June, 1961, on payment to them of a deposit of Five Guineas by cheque drawn in favour of the above Committee. This will be refunded on receipt of a bona-fide Tender and the return of all documents.

Tenders, on the form supplied, together with particulars of experience of similar mainlaying work, are to be delivered to the undersigned, in the envelope provided, not later than 12 o'clock Noon on FRIDAY, 21st JULY, 1961.

(Signed) F. WRIGHT,
Clerk of the Committee.

53 Southmoor Road,
Hemsworth,
Near Pontefract,
15th June, 1961.

CONTRACTS

COUNTY BOROUGH OF BRIGHTON.

WATER DEPARTMENT.

FALMER PUMPING STATION.

FIXED-PRICE TENDERS are invited from specialist firms for the **DEMOLITION, REMOVAL AND DISPOSAL OF TWO TRIPLE-EXPANSION STEAM ENGINES, the 140ft. high BRICK CHIMNEY, the ENGINE and BOILER HOUSES, together with the COAL STORES and other appurtenant Works.**

Conditions of Contract, Specification and Form of Tender obtainable from the Chief Engineer, Brighton Corporation Water Department, 12 Bond Street, Brighton. Deposit of £5 5s. will be refunded on receipt of a bona-fide Tender and return of documents supplied.

Tenders, enclosed in plain sealed envelopes, not bearing any name or mark indicating the sender and endorsed "Tender - Falmer Pumping Station Demolition," to be delivered to me before Noon on MONDAY, 4th September, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

W. O. DODD,
Town Clerk.

Town Hall,
Brighton,
June, 1961.

BOROUGH OF SAINT IVES (HUNTS).

RE-ADVERTISEMENT.

HOUGHTON ROAD SEWER.

S.30 CONTRACT 2.

TO CIVIL ENGINEERING AND PUBLIC WORKS CONTRACTORS.

The above Council is prepared to receive **TENDERS** from experienced contractors for the **CONSTRUCTION** of approximately 291 yd. of small diameter **SEWER**, and other ancillary Work.

Particulars and Specifications may be obtained, and Plans may be inspected at the offices of the Council's Consulting Engineers, **MESSRS. HOWARD HUMPHREYS AND SONS**, West Street, Epsom, or inspected at the Council Offices, on and from Monday, 19th June, 1961, until Friday, 7th July, 1961, between the hours of 10 a.m. and 4 p.m., upon the payment of a deposit of Five Guineas by cheque made payable to the St. Ives Borough Council, which deposit, after the Council has reached a decision, will be returned to each contractor who has submitted a bona-fide Tender which had not subsequently been withdrawn and has returned all documents and Drawings.

Tenders are to be on the official form and are to be delivered to the undersigned in sealed envelopes endorsed "Tenders for Houghton Road Sewer (S.30 Contract 2)," but bearing no name or other mark indicating the sender, not later than Noon on WEDNESDAY, 12th July, 1961.

The Council does not bind itself to accept the lowest or any Tender.

JOHN D. A. CROMPTON,
Town Clerk.

Town Hall,
St. Ives,
Huntingdon,
June, 1961.

CITY OF BIRMINGHAM

ADVANCE NOTICE OF TENDERS TO BE INVITED FOR THE CONSTRUCTION OF ASTON-SIX-WAYS UNDERPASS.

TENDERS will shortly be invited for the **CONSTRUCTION OF THE ABOVE-MENTIONED WORK** consisting of an **UNDERPASS CARRIAGEWAY, 48ft. wide, and Retaining Walls about 1,200ft. long, Two Vehicular Bridges, One Footbridge, Two Subways, and ancillary Works.**

Tender Notices will appear in the Technical Press on or about the 13th July, 1961.

TEIGNMOUTH URBAN DISTRICT COUNCIL.

TENDERS are invited from building contractors for the **ERECTION OF A NEW THEATRE AND CONFERENCE HALL IN CARLTON TERRACE, Teignmouth.** Applications to tender are to be submitted to the Architects appointed by the Council, **LOUIS DE SOISSONS, PEACOCK, HODGES, ROBERTSON AND FRASER**, at 12 Baring Crescent, Exeter, not later than 7th July. Tender documents will be sent out shortly afterwards. Applications are to be accompanied by a cheque for Three Guineas, made payable to Teignmouth Urban District Council, which will be refunded on receipt of a bona-fide Tender which is not subsequently withdrawn.

Applications should be submitted only by those firms having sufficient experience and resources to carry out work of this kind, as this will be taken into account by the Council in judging the acceptance of any Tender. The Council does not bind itself to accept the lowest or any Tender.

T. W. LEE EDWARDS,
Clerk of the Council.

The Council Offices,
Bilton House,
Teignmouth, Devon.

WORTLEY RURAL DISTRICT COUNCIL.

STREET LIGHTING AT HIGH GREEN, CHAPELTOWN, THORPE HESLEY, ECCLESFIELD, GENOSIDE, WADSLEY AND LOXLEY.

TENDERS are invited for **COMPLETE STREET LIGHTING INSTALLATIONS** in SIX GROUPS, as follows:

- (1) 33 15ft. Columns with 80-W Mercury Lamps.
- (2) 31 20ft. Columns with 125-W Mercury Lamps.
- (3) 25 25ft. Columns with 3 x 80-W Fluorescent Tubes.
- (4) 49 25ft. Columns with 250-W Mercury Lamps.
- (5) 19 25ft. Columns with 250-W Mercury Lamps.
- (6) 77 20ft. and 15ft. Columns with 125-W and 80-W Mercury lamps.

Concrete columns and lanterns with side-mounted lamps are specified throughout, and columns for part of Section 1 and for Sections 2 and 3, and lanterns for Section 3 are of specified manufacture. Thirteen 15ft. columns for Section 6 are to be supplied by the Council.

Documents may be obtained from **ARTHUR WIKLEY, M.I.Mun.E., M.I.N.H.E., M.R.S.H.**, Council Offices, Genoside, Sheffield.

Tenders may be for all or part of the work, and must be received by the undersigned not later than 12 Noon on WEDNESDAY, 5th August, 1961, enclosed in the envelope provided.

ADRIAN M. KELLY,
Clerk of the Council.

Council Offices,
Genoside,
Sheffield.

CONTRACTS

U. N. E. S. C. O.

U.N.E.S.C.O. announces that it will invite **TENDERS** for the **CONSTRUCTION AND EQUIPMENT OF A FOURTH BUILDING AND AN UNDERGROUND GARAGE** on the site of its Permanent Headquarters, Place de Fontenay, Paris VIIe. This work will begin in April, 1962, and will end in September, 1963. Builders and specialist contractors wishing to tender for one or more of the 21 sections of the work, which will be let under separate Contracts, are invited to apply for forms and information between 4th and 31st JULY, 1961, in person or by post to U.N.E.S.C.O., Place de Fontenay, Paris VIIe (Office No. 128, 3rd Building).

Completed forms must be returned to U.N.E.S.C.O. before 1st OCTOBER, 1961.

U.N.E.S.C.O. will select from amongst the applicants a list from whom Tenders will be invited.

ROYAL COUNTY OF BERKSHIRE.

HIGHWAYS ACT, 1959—PART IX.

PRIVATE STREET WORKS.

TENDERS are invited for **MAKING-UP** the following Private Streets: **BERRIES ROAD, Cookham; GROVE LANDS AVENUE, Winnersh; MARTINS LANE, Bracknell; NEW ROAD, Holyport.**

The works comprised in these Contracts are as follows:

BERRIES ROAD, Cookham—approx. 2,200 sq. yd. of Hardcore and Bituminous Macadam Carriageway; 1,200 sq. yd. of Bituminous Macadam and Asphalt Footways; 700 lin. yd. of Kerbing; Highway Drainage, and incidental works.

GROVELANDS AVENUE, Winnersh—approx. 1,600 sq. yd. of Hardcore and Bituminous Macadam Carriageway; 950 sq. yd. of Bituminous Macadam and Asphalt Footways; 500 lin. yd. of Kerbing; 230 lin. yd. of 21in. dia. Surface Water Sewer; Highway Drainage, and incidental works.

MARTINS LANE, Bracknell—approx. 1,900 sq. yd. of Hardcore and Bituminous Macadam Carriageway; 1,100 sq. yd. of Bituminous Macadam and Asphalt Footways; 600 lin. yd. of Kerbing; Highway Drainage, and incidental works.

NEW ROAD, Holyport—approx. 950 sq. yd. of Hardcore and Bituminous Macadam Carriageway; 550 sq. yd. of Bituminous Macadam and Asphalt Footways; 300 lin. yd. of Kerbing; Highway Drainage, and incidental works.

Drawings may be inspected at, and Specifications, Bills of Quantities and Forms of Tender obtained from, the Office of the **COUNTY SURVEYOR**, Shire Hall, Reading, on payment of a deposit of £2 for each Contract.

The deposit(s) will be refunded on receipt of bona-fide Tender(s).

Tenders, in envelope(s) provided, must be returned by not later than 12 Noon on FRIDAY, 21st July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

EAST SUSSEX COUNTY COUNCIL.

PRIVATE STREET WORKS.

Contractors who wish to be considered for **TENDERING** for the **MAKING-UP OF COAST ROAD, Penvensey Bay** which includes the **CONSTRUCTION** of approx. 880 lin. yd. of Tarmacadam Carriageway, the Provision of Kerbs, Concrete Footways, and ancillary works, are invited to submit their names not later than 8th JULY, 1961.

M. C. LENEY,
County Surveyor.

County Hall,
Lewes, Sussex.

BOROUGH OF GLOSSOP.

IMPROVEMENTS TO PRE-WAR HOUSES.

TENDERS are invited for the **IMPROVEMENTS TO 48 HOUSES AT SHEFFIELD ROAD, SIMMONDLEY LANE AND NEWSHAW LANE, Glossop.** This will involve the **Fixing of Baths, Washbasins, Combination Tanks, Sinks, Tile Surround Fireplaces, and Windows** to 48 houses.

Specification, Bill of Quantities and Form of Tender may be obtained from the Borough Surveyor, Municipal Buildings, Glossop.

Tenders, in sealed envelopes and endorsed "Improvements to Houses," should be returned to the undersigned not later than First Post on THURSDAY, 13th July, 1961.

I. ARTHUR PUGH,
Town Clerk.

Municipal Buildings,
Glossop,
June, 1961.

CITY OF MANCHESTER.

BRIDGE PAINTING.

TENDERS are invited for the **CLEANING AND PAINTING OF BRIDGES** as follows:—
(Contract A) Kingsway, Parris Wood Road South, and Princess Road Bridges over the L.M. Region of B.R.
(Contract B) Palatine Road Bridge, Northenden, over the River Mersey.

Tender documents, returnable by 9.30 a.m. on the 5th JULY, 1961, from the CITY SURVEYOR, Town Hall, Manchester, 2.

MANSFIELD WOODHOUSE URBAN DISTRICT COUNCIL.

ALBERT STREET/PARK HALL ROAD, MANSFIELD WOODHOUSE.

FIXED-PRICE TENDERS are invited for the **RECONSTRUCTION AND WIDENING OF ALBERT STREET** and that section of **PARK HALL ROAD** from its junction with Albert Street to that with Middleton Road.

Copies of the Specifications, Bills of Quantities and Forms of Tender may be obtained from the Surveyor to the Council, at these Offices, upon payment of a deposit of £3 3s. (cheques to be crossed and made payable to Mansfield Woodhouse Urban District Council), which will be refunded upon receipt of a bona-fide Tender and/or return of all documents.

Tenders should be addressed to me, in plain sealed envelopes, endorsed "Tender—Albert Street/ Park Hall Road," so as to be received not later than 29th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

C. J. READ JOHNSON,
Clerk of the Council.

Council Offices,
Manor House,
Mansfield Woodhouse,
22nd June, 1961.

CONTRACTS

METROPOLITAN BOROUGH OF WANDSWORTH.

FLATS AT PUTNEY.

Contractors wishing to **TENDER** for **ERECTION OF 40 FLATS** in Three-storey Blocks at **GLEGG PLACE** should submit names to me by 5th JULY, 1961, giving details of experience, plant, and technical and supervisory staff available, together with names of two technical and two financial referees. Bills of Quantities will be issued to selected contractors in due course. Drawings may be examined at Office of **MESSRS. DIAMOND REDFERN AND PARTNERS**, 92 George Street, W.1.

J. NOEL MARTIN,
Town Clerk.

Municipal Buildings,
Wandsworth, S.W.18.

BOROUGH OF COLCHESTER.

RESURFACING WORKS.

TENDERS are invited for the **FOLLOWING WORKS:**

Resurfacing of Various Roads (approximately 18,000 sq. yd.).

The Works consist of Heating and Planing, Reshaping and Surfacing in Granite Asphalt.

Plans may be inspected, and the Conditions of Contract, Specification, Bills of Quantities and Forms of Tender may be obtained from the office of the undersigned on payment of a deposit of £2 (Two Pounds) which will be refunded on receipt of a bona-fide Tender and return of all documents.

Tenders, in plain sealed envelopes endorsed "Resurfacing Works, 1961-62," bearing no mark or indication of the sender, must be delivered to the undersigned not later than Noon on MONDAY, 17th July, 1961.

The Council does not bind itself to accept the lowest or any Tender.

J. S. ORCHARD,
A.M.I.C.E., A.M.I.W.E., M.I.Mun.E.,
Borough Engineer.

1 West Stockwell Street,
Colchester.

URBAN DISTRICT COUNCIL OF KNUITSFORD.

KNUITSFORD SEWERAGE—CONTRACT NO. 1.

TENDERS are invited for the **LAYING** of some 3,300 yd. of 27in. to 36in. diameter **CONCRETE CAST-IRON AND STEEL PIPE SEWERS** and 270 yd. of 6in. **CAST-IRON RISING MAIN**, together with the **CONSTRUCTION** of Manholes and Storm Water Overflows.

Consulting Engineers, **ARNOLD BROOKSBANK AND SON**, 48 Sunbridge Road, Bradford, 1, on payment of a deposit of £5 5s. (by cheque payable to Knutsford U.D.C.).

Drawings may be seen at the office of the Consulting Engineers or at the Council Offices.

Tenders are to be on a fixed-price basis.

Contract No. 1 forms the first stage of a programme for the reconstruction of the Knutsford sewerage and disposal system, and the successful contractor will be invited to tender for the succeeding stages of the work.

Tenders, complete with Priced Bills of Quantities, etc., enclosed in a plain sealed envelope endorsed "Tender for Knutsford Sewerage—Contract No. 1," must be forwarded to reach me not later than Noon on TUESDAY, the 11th July, 1961.

The lowest or any Tender will not necessarily be accepted; any acceptance being subject to approval by the Ministry of Housing and Local Government.

EDWARD MORLEY,
Clerk of the Council.

Council Offices,
Tot Road,
Knutsford,
Cheshire,
15th June, 1961.

LANTRISANT AND LLANTWIT FARDRE RURAL DISTRICT COUNCIL.

EXTENSION TO RHIWSEAON SEWAGE DISPOSAL WORKS.

TENDERS, on a Fixed-price Basis, are invited from experienced public works contractors for the **CONSTRUCTION OF EXTENSIONS TO THE ABOVE SEWAGE DISPOSAL WORKS**, including Sedimentation Tanks, Storm Water Tanks, Percolating Filters, Humus Tanks, Sludge Drying Beds, Sludge Pumping Station, 18in. dia. Effluent Drain, Access Road, and other incidental works.

The Specification, Bills of Quantities and Form of Tender may be obtained from the Council's Engineer and Surveyor at the address below, where the Drawings may be inspected during normal office hours. Applications for the documents should be available from 30th June, 1961, must be accompanied by a cheque for £5 5s. made payable to the Council, which will be refunded upon receipt of a bona-fide Tender and upon the return of all documents.

Tenders, in plain sealed envelopes endorsed "Extension to Sewage Disposal Works," must be delivered to the undersigned not later than 10 a.m. on 24th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

GEOFFREY HOCKIN,
Clerk of the Council.

Council Offices,
Danygraig,
Llantrisant,
Glam.
19th June, 1961.

LANTRISANT AND LLANTWIT FARDRE RURAL DISTRICT COUNCIL.

CASTELL-Y-MWNWS SEWERAGE SCHEME.

TENDERS are invited on a Fixed-price Basis for the **EXECUTION OF WORKS** included in the **ABOVE SCHEME**, comprising the Laying of approx. 250 yd. of 6in. **STONEWARE PIPES**, 150 yd. of 6in. dia. **STEEL PIPES** on **CONCRETE PIERS**, together with House Connections and Construction of Manholes.

The Specification, Bills of Quantities and Form of Tender may be obtained from the Council's Engineer and Surveyor at the address below, where the Drawings may be inspected during normal office hours.

Applications for documents must be accompanied by a cheque for £2 2s. made payable to the Council, which will be refunded upon receipt of a bona-fide Tender and upon the return of all documents.

Tenders, in plain sealed envelopes endorsed "Castell-y-Mwnws Sewerage," must be delivered to the undersigned not later than 10 a.m. on 24th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

GEOFFREY HOCKIN,
Clerk of the Council.

Council Offices,
Danygraig,
Llantrisant,
19th June, 1961.

CONTRACTS

COUNTY BOROUGH OF DONCASTER.

DUSTBINS.

The Doncaster County Borough Council invite TENDERS for the SUPPLY AND DELIVERY OF 1,000 x 2 1/2 cu. ft. capacity GALVANIZED MILD STEEL TAPERED DUSTBINS, made to the British Standard Specification No. 792, etc., or better, and stamped on bin and lid with the letters "Don. C.B.C. 1961," not less than 1 1/2 in. in size, for delivery during the period 1st August, 1961, to 31st March 1962. Delivery date to be stated and delivery to be made to the Transport Department's Garage, Leicester Avenue, Doncaster, in lots of not less than 500, as required by the Department.

Tenders, in plain sealed envelopes endorsed "Supply of Dustbins" and not bearing any mark indicating the sender, should reach me not later than the First Post on 3rd JULY, 1961. Forms of Tender are not provided.

The Corporation do not bind themselves to accept the lowest or any Tender.

H. R. WORMALD,
Town Clerk.

Town Clerk's Office,
1 Priory Place,
Doncaster,
June, 1961.

BOROUGH OF ABINGDON.

TEN SINGLE-BEDROOM TRADITIONAL DWELLINGS, GAINSBOROUGH GREEN (PHASE III, PART A).

The Council invite FIXED-PRICE TENDERS for the ERECTION OF 10 SINGLE-BEDROOM TRADITIONAL DWELLINGS, with ancillary works, as part of the Third Stage of Development at GAINSBOROUGH GREEN, Abingdon.

Forms of Tender and Bills of Quantities may be obtained from the Architects, CAREN, ROSCOE-HUDSON AND PARTNERS, 6 Station Road, Abingdon, Berks., at whose office the Contract Drawings may be inspected.

Tenders must be submitted, sealed in the envelope provided and endorsed "Gainsborough Green, Phase III A," to reach the undersigned not later than 5 p.m. on FRIDAY, 7th JULY, 1961.

The Council are not bound to accept the lowest or any Tender.

E. W. J. NICHOLSON,
Town Clerk.

The Abbey House,
Abingdon,
23rd June, 1961.

CITY OF CARLISLE.

COLLEGE OF ART EXTENSIONS.

FIXED-PRICE TENDERS are invited for the ERECTION OF A NEW STUDIO AND WORKSHOP BLOCK EXTENSION to the COLLEGE OF ART, HOMEACRES, BRAMPTON ROAD, Carlisle. The approximate value of the Contract is £100,000.

Tender documents may be had from the City Surveyor, 18 Fisher Street, Carlisle.

Closing date for Tenders, 24th JULY, 1961.

H. D. A. ROBERTSON,
Town Clerk.

TROWBRIDGE URBAN DISTRICT COUNCIL.

PROPOSED SITE WORKS AT THE BRADLEY ROAD LIGHT INDUSTRIAL SITE (FIRST PHASE).

TENDERS are invited for the ABOVE-MENTIONED WORKS, which include the FOLLOWING:—

Demolition of Existing Buildings and Structures; Clearance of Site; Construction of Roads, Footpaths and Sewers; and ancillary works.

Tendering documents may be obtained from the Engineer and Surveyor, Town Hall, Trowbridge, on and after Monday, 26th June, 1961, on payment to the Council of a deposit of Two Guineas which will be returned only on receipt of a bona-fide Tender and return of all documents. The General Conditions of Contract (I.C.E. Conditions) may be inspected at the Town Hall during normal office hours.

The Council do not bind themselves to accept the lowest or any Tender.

No Tender will be considered unless received on the Form of Tender and in the envelope provided, sealed, and delivered to the undersigned by MONDAY, 17th JULY, 1961.

LEUAN EVANS,
Clerk of the Council.

Town Hall,
Trowbridge,
June, 1961.

CLEVEDON URBAN DISTRICT COUNCIL.

SURFACE DRESSING OF CARRIAGEWAYS, 1961-62.

TENDERS are invited for the SURFACE DRESSING OF CARRIAGEWAYS IN THE URBAN DISTRICT with HOT TAR AND SLAG CHIPPINGS of an area of approximately 50,000 sq. yd.

Specification, Bill of Quantities and Form of Tender may be obtained from the Engineer and Surveyor, The Council House, Clevedon.

Tenders are to be submitted to the undersigned by 12 Noon, MONDAY, 17th JULY, 1961.

The Council does not bind itself to accept the lowest or any Tender.

H. B. HANSON,
Clerk of the Council.

The Council House,
Clevedon,
20th June, 1961.

WALTON-LE-DALE URBAN DISTRICT COUNCIL.

SEWAGE DISPOSAL WORKS.

TENDERS are invited on a Fixed-price Basis from experienced contractors for the CONSTRUCTION OF A SEWAGE DISPOSAL WORKS, comprising new Inlet Arrangements, three 50ft. dia. Sedimentation Tanks, Pumphouse constructed within a sheet-piled Cofferdam, eight 110ft. dia. Percolating Filters, two 50ft. dia. Humus Tanks, 45ft. dia. Sludge Digestion Tank, new Sludge Drying Beds, and the Conversion of the existing Settling Tanks to form Storm Water and Tidal Storage Tanks.

Drawings may be inspected, and the Contract documents (which will be available early in July) obtained from MESSRS. CHARLES J. LOMAX AND SON, Chartered Civil Engineers, 68 Barton Arcade, Manchester, 3, on payment of a deposit cheque for Five Guineas (cheques only, made payable to the Council) which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Sealed Tenders, endorsed "Tender for Sewage Works," must be returned to the undersigned not later than Noon on TUESDAY, 22nd AUGUST, 1961.

The lowest or any Tender will not necessarily be accepted.

F. W. ROSCOE,
Clerk and Solicitor.

Council Offices,
Bamber Bridge,
Lancs.

CONTRACTS

BOROUGH OF PONTEFRAC.

TENDERS are invited from contractors specialising in this class of work, for LAYING any or all of the FOLLOWING:

- Approx. 2,500 sq. yd. of 1 1/2 in. Hot Rolled Asphalt to B.S.594.
- Approx. 2,600 sq. yd. of 3/4 in. Cold Asphalt to B.S.1690.
- Surface-dressing County and District Roads to a total area of approx. 35,000 sq. yd.

Specifications and Form of Tender may be obtained upon application to the Borough Engineer, stating the work that the contractor wishes to tender for.

A. F. RICHMOND, A.M.I.C.E.,
Borough Engineer.
Municipal Offices,
Ponteract, Yorks.
June, 1961.

BOROUGH OF ILFORD

STREET LIGHTING—GROUP "B."

DISTRICT ROADS SCHEME—STAGE IV.

TENDERS are invited from experienced contractors for the FOLLOWING WORK in connection with this Scheme:

- Erection and Connection of approx. 1,200 Columns and Lanterns.
- Cable Laying, Jointing and Trenching.
- Thrust Boring.

Conditions of Contract and other documents may be inspected at the Office of the Borough Engineer and Surveyor, Town Hall, Ilford, from whom the Specification, Bills of Quantities and Tender Form may be obtained upon payment of £2 2s. which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in the envelope provided, bearing no name or mark indicating the tenderer, and endorsed "Tender for District Roads Lighting Scheme—Stage IV," must be delivered to the TOWN CLERK, Town Hall, Ilford, not later than 4 p.m. on 25th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

KEYNSHAM URBAN DISTRICT COUNCIL.

MAKING-UP OF ASHMEAD ROAD, KEYNSHAM.

TENDERS are invited for the CONSTRUCTION of a total of approx. 2,717 sq. yd. of 7 in. thick REINFORCED CONCRETE CARRIAGEWAY, with 579 lin. yd. of Kerb and Formation of Channel, and the Construction of 1,242 sq. yd. of Footpath with Tarmac and Asphalt, together with Provision of Street Lighting, and other incidental works.

Specification, Bill of Quantities and Form of Tender may be obtained upon application to the Engineer and Surveyor, Council Offices, Keynsham, Bristol, on payment of a deposit of Two Guineas which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Drawings and Conditions of Contract may be inspected at the Office of the Surveyor during normal office hours.

Tenders, in plain sealed envelopes endorsed "Ashmead Road," must reach the undersigned not later than the First Post on FRIDAY, 4th AUGUST, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

GEO. R. ASHTON,
Clerk of the Council.

Council Offices,
Keynsham,
Bristol.

MARLOW URBAN DISTRICT COUNCIL.

MARLOW SEWERAGE.

CONTRACT NO. 8.

EXTENSIONS TO SEWAGE DISPOSAL WORKS.

TENDERS are invited on a Fixed-price Basis for the WORK REQUIRED in the CONSTRUCTION of the FOLLOWING:

Inlet and Recorder Channel; two Storm Water Tanks, one Effluent Pumping Station, and approx. 450 yd. of 15 in. dia. Cast-iron Outfall Sewer, and Manholes, together with other works incidental thereto, at the Marlow Sewage Disposal Works for the Urban District Council of Marlow in the County of Buckinghamshire.

Copies of the Specification and Bills of Quantities and the Drawings may be seen by intending contractors at the Council's Offices, Court Garden, Marlow, Bucks, or at the Offices of the Engineers, MESSRS. A. P. I. COTTERELL AND SON, 54 Victoria Street, Westminster, S.W.1, on or after 3rd JULY, 1961, during the usual office hours. A copy of the Specification and Bills of Quantities will be forwarded by the Engineer to intending contractors on payment by them of the sum of Three Guineas which will be returned on receipt of a bona-fide Tender and all other documents supplied.

Tenders, in plain sealed envelopes, on the forms provided, must be delivered, accompanied by the Specification and Priced Bills of Quantities (in separate sealed packets), to the undersigned, and endorsed "Marlow Sewerage—Contract No. 8," not later than 10 a.m. on 31st JULY, 1961.

Contractors will be required to provide securities for the performance of the Contract.

The Council do not undertake to accept the lowest or any Tender.

Dated this 21st day of June, 1961.

A. H. PEDDLE,
Clerk of the Council.

Council Offices,
Court Garden,
Marlow, Bucks.

SEAFORD URBAN DISTRICT COUNCIL.

SEWERAGE WORKS.

TENDERS, on a Fixed-price Basis, are invited from experienced public works contractors for the CONSTRUCTION OF A REINFORCED CONCRETE COLLECTING CHAMBER, 10 yd. of 66 in. dia. Concrete Tube Sewer, and ancillary works.

Specification, Bills of Quantities and Form of Tender may be obtained from the Engineer and Surveyor on payment of a deposit of £3 3s. which will be returned on receipt of a bona-fide Tender.

Sealed Tenders, endorsed "Sewerage Works," must be returned to the undersigned not later than 10 a.m. on SATURDAY, 15th JULY, 1961.

The Council does not bind itself to accept the lowest or any Tender.

J. PEY,
Clerk of the Council.

Municipal Offices,
Seaford,
Sussex,
20th June, 1961.

CONTRACTS

HOLLAND COUNTY COUNCIL.

TENDERS are invited from building contractors for the FOLLOWING WORKS:

- One Four-bay Fire Station, Drill Yard, Hose Drying and Drill Tower, Brigade Stores and Offices.
- One Fire Officer's House.
- Five Firemen's Houses.

All on sites at Robin Hood's Walk, Boston. Forms of Tender, Bills of Quantities for (a), Specifications for (b) and (c), and Plans may be obtained from the County Architect, County Hall, Boston, Lincs., and Tenders must be submitted to the undersigned by 10 a.m. on 31st JULY, 1961.

Contractors may tender for the whole (a), (b) and (c), or any part, of the above works.

H. A. H. WALTER,
Clerk of the County Council.

County Hall,
Boston, Lincs.

WEST SUSSEX COUNTY COUNCIL.

Public works contractors who wish to be invited to TENDER for the UNDERMENTIONED ROAD IMPROVEMENT SCHEME should submit their names to the County Surveyor, County Hall, Chichester, in an envelope endorsed "A.272—Rogate, Road Improvement," not later than 10th JULY, 1961:

- A.272—Petersfield-Midhurst Road, at Peartree Cottage, Rogate; Earthworks, Drains, Carriageway Construction, etc., for Re-aligning and Widening to 24ft. existing Carriageway. Approx. length 800 yd.

T. C. HAYWARD,
Clerk of the County Council.

BOROUGH OF WREXHAM.

TENDERS are invited for the SUPPLY AND DELIVERY of a quantity of DULUX GLOSS PAINT and Undercoating.

Tenders, on form obtainable from the Borough Engineer and Surveyor, Guildhall, Wrexham, to be returned, in the envelope provided, to the undersigned not later than Noon on 5th JULY, 1961.

PHILIP J. WALTERS,
Town Clerk.

Guildhall,
Wrexham.

BOROUGH OF ROMFORD.

RESURFACING OF BRENTWOOD ROAD.

TENDERS are invited for the RESURFACING OF BRENTWOOD ROAD for a length of 350 yd., between the Drill Corner and Squirrels Heath Lane, comprising approx. 2,600 sq. yd. of Burn-off, 35 tons of Bituminous Concrete for Regulating and Shaping, 2,600 sq. yd. Dense Bitumen Macadam Wearing Course, together with various ancillary works.

Contract documents, obtainable from the Borough Engineer and Surveyor, Town Hall, Romford, consist of a cheque for Two Guineas, returnable on receipt of a bona-fide Tender, in the envelope provided, by MONDAY, 10th JULY, 1961.

BOROUGH OF SUTTON COLDFIELD.

POWELL'S POOL AND WYNDLEY POOL.

TENDERS are invited from experienced contractors for the CONSTRUCTION OF OVERFLOWS at the ABOVE RESERVOIRS.

The works comprise the following:

- At Powell's Pool—the Construction of a 98ft. long Weir, together with Concrete Spillway, 60 in. dia. Waste Water Culvert and Downstream Spillway.
- At Wyndley Pool—the Construction of a 120ft. long Weir and Spillway, and Concreting over a Ford.

Tender documents may be obtained from the Borough Surveyor, Council House, Sutton Coldfield, on payment of a deposit of £2 which will be returned to bona-fide tenderers, and should be returned to the undersigned by Noon, FRIDAY, 7th JULY.

Contract Drawings may be inspected at the Borough Surveyor's Office during normal office hours.

J. P. HOLDEN,
Town Clerk.

Council House,
Sutton Coldfield,
16th June, 1961.

KEARSLEY URBAN DISTRICT COUNCIL.

HIGHWAYS ACT, 1959—PRIVATE STREET WORKS.

FIXED-PRICE TENDERS are invited for the MAKING-UP, in accordance with the Provisions of the Highways Act, 1959, of HAZEL AVENUE (Part), Prestolee.

Plans may be inspected, and further particulars, Forms of Tender and Specification, etc., may be obtained on application to the Engineer and Surveyor.

Tenders, in plain sealed envelopes endorsed "Tender for Private Street Works—Hazel Avenue (Part)," must be received by the undersigned not later than the 14th JULY, 1961.

HAROLD GOMM,
Clerk of the Council.

Town Hall,
Kearsley,
Bolton, Lancs.

WORKSOP RURAL DISTRICT COUNCIL.

HARWORTH SEWERAGE SCHEME.

CONTRACT NO. 2—PUMPING PLANT.

TENDERS are invited for the SUPPLY AND ERECTION at HARWORTH, in the Worksop Rural District (Nottinghamshire), of TWO PUMPS, each to pump uncreased sewage at a rate of 375 gallons per minute against a total head of approx. 33ft., and TWO PUMPS to pump sewage sludge at a minimum rate of 100 gallons per minute against a head of approx. 42ft. and decanted storm water at a rate of 200 gallons per minute against a head of approx. 24ft., all complete with electric motors, starters and accessories.

Pump manufacturers wishing to tender should apply for the documents and Drawings to the Council's Consulting Engineers, JOHN H. HAISTE AND PARTNERS, Belmont House, 20 Wood Lane, Headingley, Leeds, 6, enclosing a deposit cheque value Three Guineas, made payable to the Worksop R.D.C., such deposit to be refunded on receipt of a bona-fide Tender not subsequently withdrawn, and the return of the documents.

Tenders are to be submitted to the undersigned not later than 12 Noon on the 18th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender they may receive.

C. I. INGHAM,
Clerk to the Council.

Council Offices,
Highfield House,
222 Carlton Road,
Worksop.

CONTRACTS

COUNTY COUNCIL OF ESSEX.

HIGHWAYS DEPARTMENT.

LONDON-GREAT YARMOUTH TRUNK ROAD, A.12.

TENDERS are invited for the CONSTRUCTION of a FOOTBRIDGE over the INGATESTONE BY-PASS.

The Bridge is to be 6ft. wide and 580ft. long, with a centre span of 120ft. Main construction is in fabricated steelwork over a length of 420ft., with approaches and supports in reinforced concrete.

Tender documents may be obtained from the County Surveyor, Old Court, Chelmsford, on payment of a deposit of £5 which will be refunded only if a bona-fide Tender is received and not subsequently withdrawn, and if all the documents are returned.

Tenders must be submitted, in the envelope provided, not later than 12 Noon on FRIDAY, 28th July, 1961.

The Council does not bind itself to accept the lowest or any Tender it may receive.

CHRISTIAN BERRIDGE,

Clerk of the County Council.

County Hall,
Chelmsford.

BOROUGH OF KIDDERMINSTER.

SURFACE WATER SEWERS—
WOLVERHAMPTON ROAD AND STOURPORT ROAD.

SEPARATE TENDERS are invited for the FOLLOWING WORKS:

(a) The Laying of approx. 640 lin. yd. of Concrete Pipes varying from 27in.-18in. in dia., together with Manholes, Gullies and Connections, in Wolverhampton Road.

(b) The Laying of approx. 350 lin. yd. of Concrete Pipes varying from 24in.-12in. in dia., together with Manholes, Gullies and Connections, in Stourport Road.

Specifications and Bills of Quantities may be obtained from the Office of the Borough Engineer and Surveyor, 110 Mill Street, Kidderminster.

Tenders and Priced Bills of Quantities are to be delivered, in the envelope provided, for the Wolverhampton Road Sewer endorsed "E.172/18/7," and for the Stourport Road Sewer endorsed "E.172/18/7," to the undersigned not later than Noon on TUESDAY, 18th July, 1961.

JOHN L. EVANS,
Town Clerk.

Town Hall,
Kidderminster,
22nd June, 1961.

CITY OF CANTERBURY.

CONSTRUCTION OF RETAINING WALL AND STEPS
AT BURGATE LANE.

TENDERS are invited for the CONSTRUCTION of RETAINING WALL AND STEPS AT BURGATE LANE. Drawings, Bill of Quantities, Specification and Form of Tender may be obtained from the City Engineer, Municipal Buildings, Dane John, Canterbury.

Tenders, in plain sealed envelopes endorsed "Retaining Wall and Steps—Burgate Lane," should reach the undersigned by not later than First Post on SATURDAY, 15th July, 1961.

J. BOYLE,
Town Clerk.

Municipal Buildings,
Dane John,
Canterbury,
19th June, 1961.

CHEADLE AND GATLEY
URBAN DISTRICT COUNCIL.TENDERS FOR BOWLS HOUSE, DRESSING,
ACCOMMODATION, GATES AND FENCING,
HARD SURFACE PLAY AREA.

TENDERS are invited for the FOLLOWING:

(1) Erection of a Small Bowls House.

(2) Supply and Erection of Dressing Accommodation.

(3) Supply and Erection of Gates and Fencing.

(4) Construction of Hard Surface Play Area.

Specifications and Forms of Tender may be obtained from the Parks Superintendent, Bruntwood, Cheadle, Cheshire.

Tenders, in plain sealed envelopes endorsed "Maple Avenue," must be received by the undersigned not later than SATURDAY, 8th July, 1961.

RICHARD ROBERTS,

Clerk of the Council.

Town Hall,
Abney,
Cheadle, Ches.

URBAN DISTRICT COUNCIL OF
BUCKLEY.

SURFACE DRESSING.

TENDERS are invited for the SURFACE DRESSING of approximately 20,000 sq. yd. of CARRIAGEWAY within the Urban District.

Specification and Form of Tender may be obtained from the Surveyor, Council Chambers, Buckley.

Tenders, in plain sealed envelopes endorsed "Surface Dressing," must be delivered to the undersigned not later than Noon on MONDAY, 24th July, 1961.

STEVEN E. LIGO,

Clerk of the Council.

Council Chambers,
Buckley,
Flintshire.

PONTYPOOL URBAN DISTRICT
COUNCIL.

COMPLETION OF ROADS AND FOOTPATHS.

TENDERS are invited for the COMPLETION of ROADS AND FOOTPATHS at the FOLLOWING HOUSING SITES:

(a) Kemys Fawr Phase II Housing Site.

(b) Green Lawn Private Development Site.

(c) Trevelthyn Phase II Scheme "A" Housing Site.

The work includes the Laying of some 3,400 lin. yd. of 6in. x 5in. Concrete Kerb, 5,450 sq. yd. of Concrete Flagpaving, and Surfacing some 9,500 sq. yd. of Carriageway, together with ancillary works, including Soiling and Seeding some 9,000 sq. yd. of Open Areas.

Specification, Bills of Quantities, Conditions of Contract and Form of Tender may be obtained on application to the Engineer and Surveyor, Municipal Offices, Hanbury Road, Pontypool, on deposit of a cheque value £3 3s., returnable on receipt of a bona-fide Tender not subsequently withdrawn.

The completed Tender, together with the priced Bill of Quantities, should be returned to the undersigned on or before TUESDAY, 25th July, 1961, in a plain sealed envelope endorsed "Housing Sites Completion Works."

(Signed) H. COOK,

Clerk of the Council.

Municipal Offices,
Pontypool, Mon.
22nd June, 1961.

CONTRACTS

GOVERNMENT OF HONG KONG.

PLOVER COVE AND HEBE HAVEN WATER SCHEME.

It is hereby notified that sealed TENDERS, in duplicate, are invited for the CONSTRUCTION of TUNNELS, etc., between TAI PO TAU and PAI TAU HANG (P.W.D. Contract No. 101 of 1961), comprising approximately Eight Miles of Tunnelling up to 22ft. diameter. Shafts and Stream Intakes.

Tenders must be delivered to the Secretary of the Tender Board, Colonial Secretariat, Central Government Offices, Lower Albert Road, Hong Kong, not later than 12 Noon on FRIDAY, 1st September 1961. The package, if sent by post, must be registered, and if delivered by hand must be placed in the Tender Box situated in the lift lobby on the sixth floor of the Central Government Offices (main wing), at the above address.

Forms of Tender, Specification and further particulars may be obtained from the offices of the Consulting Engineers for the Plover Cove and Hebe Haven Scheme in Hong Kong or London, on deposit of a cheque for H.K.\$400 or £25, refundable on receipt of a bona-fide Tender.

Contractors registered in Hong Kong and on the Public Works Department list of approved contractors (only Group V permitted to tender) need not pay the above deposit, but will be liable to have their names removed from the list of approved contractors if they fail or refuse to implement an accepted Tender, having obtained Forms of Tender fail to submit a bona-fide Tender.

The Government does not bind itself to accept the lowest or any Tender.

Consulting Engineers: BINNIE, DEACON AND GOURLEY, Artillery House, Artillery Row, Westminster, London, S.W.1; and SCOTT AND WILSON, KIRKPATRICK AND PARTNERS, Manson House, Nathan Road, Hong Kong.

COUNTY BOROUGH OF SWANSEA.

TENDERS FOR THE SUPPLY OF VEHICLES.

TENDERS are invited for the SUPPLY of the UNDERMENTIONED VEHICLES to the Swansea Corporation:

Two Morris Minor 1000 Travellers.
Two Land-Rovers (Regular Model).
Two Land-Rovers (Long Model).
Three Morris Mini Vans (1-ton).
One Hillman Husky Estate Car.

Forms of Tender, giving details of the above vehicles and of any vehicles to be taken in part exchange, may be obtained from the Borough Engineer and Surveyor, The Guildhall, Swansea. These forms must be received by me not later than FRIDAY, 14th July, 1961.

IORWERTH J. WATKINS,

Town Clerk.

The Guildhall,
Swansea,
21st June, 1961.

BOROUGH OF MALDEN AND COOMBE.

RESURFACING OF DISTRICT ROADS AND
ANCILLARY CONCRETE CARRIAGEWAY
REPAIRS.

Contractors desirous of TENDERING for the ABOVE WORKS are invited to submit their names to JOHN APSE, A.M.I.C.E., Borough Engineer and Surveyor, and Tender documents will be submitted to them in due course.

The works comprise mainly of Machine-laying of approx. 20,000 sq. yd. of 1/2in. Fine Cold Asphalt and Breaking-out approx. 200 sq. yd. of Concrete Carriageway, and Reconstruction with Reinforced Concrete and Surfaced with Asphalt.

HAROLD E. BARRETT,
Town Clerk.

Municipal Offices,
New Malden,
Surrey.

BOROUGH OF MALDEN AND COOMBE.

DEMOLITION OF MUNICIPAL PIGGERIES.

Contractors desirous of TENDERING for the WORK of DEMOLISHING approx. 60 BRICK-BUILT PIG STIES and other associated buildings, are invited to submit their names to JOHN APSE, A.M.I.C.E., Borough Engineer and Surveyor, Municipal Offices, New Malden, Surrey.

Tender documents will be forwarded in due course.

HAROLD E. BARRETT,

Town Clerk.

Municipal Offices,
New Malden,
Surrey.

CRICKLADE AND WOOTTON BASSETT
RURAL DISTRICT COUNCIL.GIN. DIA. ASBESTOS-CEMENT SEWERS—
RESTROP AD AND BATTLEWELL TO
REIDS PIECE, PURTON.

FIXED-PRICE TENDERS are invited for LAYING approx. 840 yd. of 6in. dia. SOIL and SURFACE WATER SEWERS, with 4in. dia. Branch Connections and Manholes.

Documents may be obtained on application to J. C. GRINDLEY, A.M.I.C.E., Engineer and Surveyor at the address below, on payment of a deposit of £2 2s. which is returnable on receipt of a bona-fide Tender and return of all documents.

Tenders, in plain sealed envelopes endorsed "Gin. dia. Sewers—Purton," must be delivered to the undersigned not later than 10 a.m. on FRIDAY, 14th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

W. J. HOSIER,

Clerk of the Council.

Manor House,
Wootton Bassett,
Near Swindon,
Wilts.

HUNTINGDON RURAL DISTRICT
COUNCIL.

TENDERS FOR BUNGALOWS, FLATS AND HOUSES.

TENDERS, on a FIXED-PRICE BASIS, are invited for the ERECTION OF TWO BUNGALOWS, FOUR FLATS AND TWO HOUSES at UPWOOD.

Bills of Quantities and Forms of Tender may be obtained from the Council Surveyor at the under-mentioned address, on deposit of £2 2s., which will be returned on receipt of a bona-fide Tender.

Tenders should be returned in the envelopes provided so as to reach me not later than Noon on WEDNESDAY, 9th of August.

The Council does not bind itself to accept the lowest or any Tender, and final acceptance will be subject to the approval of the Ministry of Housing and Local Government.

W. MIDWOOD,

Clerk of the Council.

Montagu House,
Huntingdon,
20th June, 1961.

CONTRACTS

COUNTY BOROUGH OF SOUTHAMPTON.

Southampton C.B.C. invites TENDERS for the FOLLOWING CONTRACTS on Bills of Quantities available in mid-July:

CONTRACT B.347—One Block of 5-storey Flats, Type B5, containing 16 flats, at Thornhill Estate.

CONTRACT B.355—Three Traditional Houses, Type W/3, at Harrison Road.

Applications for Tender documents should be received by the BOROUGH ENGINEER, Civic Centre, Southampton, by 10 a.m. on TUESDAY, 11th July, 1961.

BOROUGH OF WISBECH.

WATERLEES ROAD HOUSING ESTATE—PART 1.

ROADS AND SEWERS.

CONTRACT NO. 226.

TENDERS are invited for the CONSTRUCTION of ROADS, SEWERS and incidental works at Waterlees Road Housing Estate (Part 1), Wisbech, comprising approx. 9.915 super. yd. of Lean-Mix Concrete Carriageway, 830 lin. yd. of Kerb, and 1,000 lin. yd. of 6in. to 18in. dia. Sewers.

Forms of Tender, Bills of Quantities, Specification and Plans may be obtained from the Borough Engineer and Surveyor, Church Terrace, Wisbech, Cambs., upon deposit of Two Guineas, to be refunded upon receipt of a bona-fide Tender and return of all documents.

All Contracts are subject to Standing Orders of the Council with respect to Contracts.

Tenders, to be endorsed "Waterlees Road Housing Estate—Roads and Sewers—Part 1," and forwarded in the envelope provided, to reach the undersigned not later than 12 Noon on SATURDAY, 22nd July, 1961.

W. G. E. LEWIS,
Town Clerk.

Town Hall,
Wisbech,
21st June, 1961.

CITY OF HEREFORD.

SEWAGE DISPOSAL WORKS—ACCESS ROAD.

TENDERS are invited, on a FIXED-PRICE BASIS, for the FOLLOWING ROAD AND BRIDGE RECONSTRUCTION WORKS. The Works comprise approximately 800 sq. yd. of Pitched Stone, Farmacadam-surfaced Carriageway, approximately 400 sq. yd. of Reinforced Concrete Retaining Wall, and Miscellaneous Concrete and Brickwork Repairs to a Road Bridge.

The Conditions of Contract and Drawings may be inspected, and Tender documents obtained from the City Surveyor, F. MARGERISON, ESC., A.M.I.C.E., Town Hall, Hereford, on payment of a deposit of Two Guineas, returnable on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in the envelope provided and bearing no mark or indication of the sender, must be delivered to me not later than 9 a.m. on MONDAY, 10th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. A. WESTON,
Town Clerk.

Town Hall,
Hereford,
June, 1961.

SWADLINCOTE URBAN DISTRICT
COUNCIL.

RESURFACING TO HIGH STREET, SWADLINCOTE.

TENDERS are invited, on a Fixed-rate Basis, for RESURFACING OF HIGH STREET, Swadlincote, comprising approx. 2,320 sq. yd., in 1 1/2in. Hot Rolled Single Course Asphalt.

Contract documents may be obtained from the Engineer and Surveyor, Bank House, Midland Road, Swadlincote.

Completed Tenders should be enclosed in plain sealed envelopes, endorsed "Tender for Surfacing—High Street, Swadlincote," and be delivered to the Office of the undersigned not later than MONDAY, the 17th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

C. D. HULL,
Clerk of the Council.

Clerk's Office,
Council Offices,
Swadlincote.

HATFIELD RURAL DISTRICT COUNCIL.

SURFACING DILLSOME LANE ESTATE.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION of approximately 650 sq. yd. of CONCRETE CARRIAGEWAY, 950 sq. yd. of BITUMEN MACADAM FOOTPATHS, 3,500 sq. yd. of VERGES and GRASSED AREAS, together with other ancillary Works.

Specification, Bills of Quantities and Form of Tender can be obtained on payment of £2 2s. deposit (returnable after receipt of a bona-fide Tender) from the Engineer and Surveyor, North Place, 82 Great North Road, Hatfield, where Drawings and documents may be inspected during working hours.

Tenders to be submitted in the envelope provided, to the undersigned, not later than 12 Noon on FRIDAY, 14th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

S. F. JAGO,
Clerk of the Council.

Council Offices,
16 St. Albans Road,
Hatfield,
Herts.

HATFIELD RURAL DISTRICT COUNCIL.

CHELWOOD AVENUE SERVICE ROAD.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION of approximately 350 sq. yd. of BITUMEN MACADAM CARRIAGEWAY, the ERECTION OF 300 lin. yd. of CHAIN-LINK FENCING, and other ancillary Works.

Specification, Bills of Quantities and Form of Tender can be obtained on payment of £2 2s. deposit (returnable after receipt of a bona-fide Tender) from the Engineer and Surveyor, North Place, 82 Great North Road, Hatfield, where Drawings and documents may be inspected during working hours.

Tenders to be submitted in the envelope provided, to the undersigned, not later than 12 Noon on FRIDAY, 14th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

S. F. JAGO,
Clerk of the Council.

Council Offices,
16 St. Albans Road,
Hatfield,
Herts.

CONTRACTS

STAFFORDSHIRE COUNTY COUNCIL.

COUNTY ROADS AND BRIDGES COMMITTEE.

STAFFORD-UTTOXETER ROAD, A.518.

PROPOSED IMPROVEMENT AT AMERTON.

TENDERS are invited for the RECONSTRUCTION of the STAFFORD-UTTOXETER ROAD at Amerton. The length of road to be reconstructed is approx. 700 yd., and work involves Widening and Redigning, Excavation, Formation of Embankments, Provision of Hedges and Fences, Road Drainage, Kerbing, Carriageway Foundation in Wet-Mix, Surfacing in Bituminous Macadam, and Extension of a Culvert. Applications for Tender documents should be made to the undersigned, and must be accompanied by a deposit of Five Pounds (£5) which will be refunded on receipt of a bona-fide Tender or return of the documents before the closing date.

Completed Tenders should be returned to the undersigned by not later than 10 a.m. on MONDAY, 24th July, 1961.

T. H. EVANS,
Clerk of the County Council.

County Buildings,
Stafford.

SURREY COUNTY COUNCIL.

HIGHWAYS AND BRIDGES DEPARTMENT.

TENDERS are invited for REPAINTING STEELWORK of the FOLWING ROAD at Tongham Station, and 22ft. span Steel Troughed Roadbridge over Canal near Ash Wharf. Documents, returnable by 29th JULY, 1961, in plain sealed envelopes endorsed "Repainting Bridges," obtainable from COUNTY ENGINEER, County Hall, Kingston-upon-Thames.

BOROUGH OF WIDNES.

ERECTION OF 46 MAISONNETTES AT DITTON NEIGHBOURHOOD UNIT, SECTION 6C.

TENDERS are invited for the ERECTION of 46 FOUR-STORY MAISONNETTES in Four Blocks. Bills of Quantities and Forms of Tender available from Borough Architect, Brendan House, Widnes, on the deposit of £10 10s. (by crossed cheque, payable to Widnes Corporation) which will be refunded on the receipt of a bona-fide Tender not subsequently withdrawn, or on the return of the Bills of Quantities or on before the closing date for receipt of Tenders. Drawings and General Conditions of Contract (R.I.B.A. Form) may be inspected at the Borough Architect's Office. Tenders, on the form provided, must be delivered to the undersigned in a plain sealed envelope provided, without any distinguishing mark, not later than 10 a.m. on 29th JULY, 1961.

The lowest or any Tender will not necessarily be accepted.

FRANK HOWARTH,
Town Clerk.

Town Hall,
Widnes,
June, 1961.

BOROUGH OF WIDNES.

ERECTION OF 114 CONCRETE GARAGES.

Contractors interested in the SUPPLY and ERECTION of 114 CONCRETE GARAGES with all necessary Site Works, on VARIOUS CORPORATION ESTATE SITES, are invited to submit applications to the Borough Architect, Brendan House, Widnes, for Forms of Tender not later than 8th JULY, 1961, to be returned to the undersigned by 10 a.m. on 29th JULY, 1961, in the special envelope provided, without any distinguishing mark.

Firms tendering will be required to erect the garages complete, including all necessary site works, and prepare own construction details after inspecting the sites.

General Conditions of Contract (R.I.B.A. Form) may be inspected at the Borough Architect's Office. A deposit of £5 5s., payable to Widnes Corporation and refundable on receipt of a bona-fide Tender not subsequently withdrawn, will be required with application for Tender Form.

The lowest or any Tender will not necessarily be accepted.

FRANK HOWARTH,
Town Clerk.

Town Hall,
Widnes,
June, 1961.

BOROUGH OF WORTHING.

WATER UNDERTAKING.

PROPOSED DEMOLITION OF WATER TOWER—LITTLEHAMPTON.

TENDERS are invited from public works contractors with experience of similar works for the DEMOLITION of the WATER TOWER STRUCTURE and incidental works, at ST. FLORA'S ROAD, Littlehampton.

Form of Tender, General Conditions and Specification may be obtained on application to the Water Engineer, 47 Chapel Road, Worthing, on payment of a deposit of £5 which will be returned on receipt of a bona-fide Tender.

Tenders, in the official envelope provided, endorsed "Demolition of Water Tower," must be delivered to the undersigned not later than MONDAY, 17th July, 1961.

ERNEST G. TOWNSEND,
Town Clerk.

Town Hall,
Worthing.

BOROUGH OF STAFFORD.

BROWNING STREET REDEVELOPMENT AREA—ROADS AND SEWERS.

TENDERS are invited, on a Fixed-price Basis, from suitably experienced contractors for the FOLLOWING CONTRACT:

The Widening and Rekerbing of approx. 450 lin. yd. of existing Highway, and the Surfacing of approx. 2,700 sq. yd. Provision of Footpaths, and Laying of Surface Water Drainage.

The Plans, General Conditions of Contract may be inspected, and the Specification and Bills of Quantities may be obtained from the Office of T. H. HIGSON, B.Sc., A.M.I.C.E., Borough Engineer and Surveyor, Mount Street, Stafford.

Tenders must be returned to the undersigned not later than 9 a.m. on WEDNESDAY, the 12th July, 1961.

(Signed) T. BROUGHTON NOWELL,
Town Clerk.

Borough Hall,
Stafford.

CONTRACTS

COUNTY BOROUGH OF PRESTON.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION of approx. 50 yd. of VERGES and FOOTPATHS in 6in. Wet-Mix Surface with Bituminous Macadam, being the extension of Harewood Road to the rear entrance of the Fire Station on Blackpool Road.

Drawings may be inspected at the Office of the Borough Engineer and Surveyor, Municipal Building, Preston, from whom Specification may be obtained on payment of a deposit of Two Guineas which will be refunded on receipt of a bona-fide Tender.

Tenders to be received by me not later than 10.30 a.m. on MONDAY, 21st August, 1961.

W. E. E. LOCKLEY,
Town Clerk.

Municipal Building,
Preston.

BOROUGH OF NEWBURY.

EXTENSIONS TO SEWAGE DISPOSAL WORKS—STAGE II.

LONDON ROAD PUMPING STATION SUPERSTRUCTURE.

N16/2 CONTRACT 10.

FIRM-PRICE TENDERS are invited for the ERECTION of SUPERSTRUCTURE to a new Pumping Station now under construction. The Superstructure will be a Single-storey Reinforced Concrete Frame and Roof Construction, with Brick Cavity Walling. The floor area will be approx. 1,000 super ft.

Particulars and Specifications may be obtained, and Plans may be inspected, at the Offices of the Consulting Engineers, MESSRS. HOWARD HUMPHREYS AND SONS, West Street, Epsom, Surrey, on and from Monday, 3rd July, 1961, until Friday, 21st July, 1961, upon payment of a deposit of Five Guineas made payable to the Newbury Borough Council, returnable for a bona-fide Tender not subsequently withdrawn.

No Tender will be considered unless on the official form and delivered to the undersigned, in a plain envelope endorsed as stated in the documents but bearing no indication of the sender, not later than 14th AUGUST 1961.

The Council do not bind themselves to accept the lowest or any Tender.

Municipal Buildings,
Newbury, Berks.
June, 1961.

LESLIE SOUTHERN,
Town Clerk.

CITY OF EXETER.

ANNUAL TENDERS.

SUPPLYING AND MACHINE-LAYING OF TARRED, BITUMINOUS AND ASPHALTIC ROAD SURFACE MATERIALS.

TENDERS are invited for SUPPLYING and MACHINE-LAYING on Prepared Surfaces the UNDERMENTIONED TYPES OF MATERIALS for the 12 months period commencing 1st October, 1961:

Tarred Slag.
Bituminous Granite, Limestone and Slag.
Gravel Asphalt.
Granite Asphalt.
Sand Carpet.
Granite Chippings (Precoated).

The application, for Specifications and Forms of Tender, marked "Tender Application," should be forwarded to the City Engineer and Surveyor, The Guildhall, Cambridge, and should be accompanied by a large stamped addressed envelope.

Tenders, in the envelopes supplied, must reach the City Engineer and Surveyor by 12 Noon, FRIDAY, 1st September, 1961, and must bear the words "Tender for..." but shall not bear any name or mark indicating the tenderer.

The Council do not bind themselves to accept the lowest or any Tender.

ALAN H. I. SWIFT,
Town Clerk.

The Guildhall,
Cambridge.

RAMSBOTTOM URBAN DISTRICT COUNCIL.

PROPOSED SODIUM LIGHTING.

The Council invites TENDERS for the INSTALLATION of CLASS "A" SODIUM LIGHTING (20 columns) in BLACKBURN ROAD.

Plans, Specification, Bill of Quantities and Form of Tender may be obtained on application to the Engineer and Surveyor.

Tenders, enclosed in sealed envelopes endorsed "Street Lighting," should be returned so as to reach me not later than TUESDAY, 1st August, 1961.

F. BELLIS,
Clerk of the Council.

Council Offices,
Ramsbottom,
Via Bury.

RYEDALE JOINT WATER BOARD.

WATER MAIN EXTENSION, ETC.—N.R. YORKS.

The above-mentioned Board is prepared to receive SEPARATE TENDERS from experienced contractors for the FOLLOWING CONTRACTS:

CONTRACT No. 1—The Construction of 100,000 gallons Mass Concrete Storage Reservoir and Booster Pumping Station at Newton Rawcliffe, and Surge Suppressors at Swainsea Lane. Booster Station, north of pickering, and incidental works connected therewith.

CONTRACT No. 2—The Laying of 14,550 lin. yd. of 6in. dia. Pumping Main in Spun C.I. and Asbestos-cement, from the Haugh Rigg, near Newton, to the Air Ministry Early Warning Station site at Fylingdales, and other incidental works connected therewith.

Plans may be inspected, and Specifications, Bills of Quantities and Forms of Tender may be obtained from the undersigned on deposit of a cheque for Two Guineas per Contract, which will be returned in full upon the receipt of a bona-fide Tender not subsequently withdrawn.

A separate Tender must be submitted for each Contract.

Further particulars may be obtained from the Board's Consulting Engineer, D. H. MOORE, B.Sc., M.Inst.C.E., 12 Valley Bridge Parade, Scarborough.

Tenders must reach the undersigned not later than First Post on 28th JULY, 1961, in plain sealed envelopes endorsed "Contract No. 1" or "Contract No. 2," as the case may be.

The Board does not bind itself to accept the lowest or any Tender.

G. F. ARTHUR NEWBY,
Clerk of the Board.

4 Old Maltongate,
Malton, Yorks.
(Tel.: Malton 250).
21st June, 1961.

CONTRACTS

DERBYSHIRE COUNTY COUNCIL.

BRIDGES AND HIGHWAYS DEPARTMENT.

PROPOSED FOOTBRIDGE OVER RIVER DERWENT AT CHURCH WILNE.

TENDERS are invited for the FABRICATION, DELIVERY and ERECTION on Prepared Abutments of the STEELWORK for a 103ft. span FOOTBRIDGE over the RIVER DERWENT at CHURCH WILNE, between Draycott and Shardlow, south-east of Derby.

Forms of Tender, etc., from the undersigned on receipt of £2 deposit, cheques payable to Derbyshire County Council. Deposit returnable on signing Contract or notification of non-acceptance.

Tenders, in plain sealed envelopes, to be delivered to the Clerk of the County Council, County Offices, Matlock, Derbyshire, by MONDAY, 24th July, 1961.

S. MEHEW,
County Surveyor.

County Offices,
Matlock, Derbyshire.

COUNTY BOROUGH OF SWANSEA.

PENFILIA HOUSING SITE EXTENSION—BRYNHAFRD.

The CORPORATION invites FIXED-PRICE TENDERS for the FOLLOWING ROAD and SEWER WORKS in connection with the ABOVE HOUSING SITE.

The works comprise the following quantities: Site Excavation, 7,770 cu. yd.; Pitched Roadways, 2,340 super. yd.; 6in.-12in. Surface Water Sewers, 515 lin. yd.; 6in.-9in. Foul Water Sewers, 633 lin. yd.

The Drawings may be inspected at the Office of the Borough Engineer and Surveyor, The Guildhall, Swansea, from whom copies of the Condition of Contract, Specification, Bill of Quantities and Form of Tender may be obtained on deposit of the sum of £3 which will be refunded after delivery of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelopes not bearing any name or mark indicating the sender, addressed to the undersigned, and endorsed "Tender for Penfilia Housing Site Extension," should be delivered or sent by Registered Post so as to reach me not later than MONDAY, 24th July, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

IORWERTH J. WATKINS,
Town Clerk.

The Guildhall,
Swansea,
June, 1961.

COUNTY BOROUGH OF SOUTHEND-ON-SEA.

PARKS DEPARTMENT.

PURCHASE OF FLOWERING BULBS.

TENDERS are invited for the SUPPLY and DELIVERY of FLOWERING BULBS. Lists of the bulbs required are obtainable from the Parks Superintendent, Burdett Road, Southend-on-Sea.

Sealed Tenders should be returned to the undersigned, in the envelope provided, which shall not bear any means of identifying the sender, and should reach the Town Clerk not later than 3 p.m. on 13th JULY, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

ARCHIBALD GLEN,
Town Clerk.

NORTHAMPTON COUNTY BOROUGH EDUCATION COMMITTEE.

ROOFING WORKS.

Contractors wishing to TENDER for the RENEWAL of CERTAIN ASPHALT FLAT ROOFS at STIMPSON AVENUE SCHOOL and at the NORTHAMPTON SCHOOL FOR GIRLS, St. George's Avenue, should submit their names within 10 days of the appearance of this advertisement to the Borough Architect, Guildhall, Northampton.

The Education Committee do not bind themselves to accept the lowest or any Tender, or to pay any costs incurred by persons tendering.

H. A. SKERRETT,
Chief Education Officer.

Springfield,
Cliftonville,
Northampton.

CITY OF PETERBOROUGH.

ANNUAL RESURFACING CONTRACT—1961/62.

HEATING and PLANING 32,000 sq. yd., HOT ROLLED ASPHALT 45,000 sq. yd., and HOUSING ESTATE ROADS.

Applications for documents, with £2 deposit, to be received by City Engineer, Town Hall, not later than 14th JULY, 1961.

C. PETER CLARKE,
Town Clerk.

Town Hall,
Peterborough.

URBAN DISTRICT COUNCIL OF KNARESBOROUGH.

MARKET PLACE—SURFACING.

TENDERS are invited for the SURFACING of the MARKET PLACE.

Specification and other particulars, and Forms of Tender may be obtained from the Surveyor, Knaresborough House, Knaresborough, in whose Office General Conditions of Contract may be inspected.

Tenders must be delivered, in the envelope provided, which shall not bear any name or mark indicating the sender, so as to reach the undersigned not later than Noon on MONDAY, 10th July, 1961.

The Council does not bind itself to accept the lowest or any Tender.

C. RILEY,
Clerk of the Council.

Knaresborough House,
Knaresborough,
21st June, 1961.

FYLDE WATER BOARD.

ROOFING OF WESTBY RESERVOIR.

TENDERS are invited for the SUPPLY and DELIVERY of the FOLLOWING:

- (1) Concrete Placer and Delivery Pipes, etc.
- (2) Two Mobile Air Compressors.
- (3) Lifting Gantry and Gantry Beam.
- (4) Mesh Reinforcement.
- (5) Holding-down Bolts.
- (6) Special Steel Shutters.

Particulars and Tender documents obtainable from the ENGINEER, Fylde Water Board, Sefton Street, Blackpool.

Tenders must be received not later than 19th JULY, 1961.

CONTRACTS

BOROUGH OF BRIDPORT.

5 AND 7 EAST BEACH, WEST BAY.

DEMOLITION AND CLEARANCE.

The COUNCIL are prepared to consider TENDERS for the DEMOLITION and CLEARANCE of TWO COTTAGES known as 5 and 7 EAST BEACH, West Bay, together with ancillary works.

Form of Tender, Specification and Bill of Quantities may be obtained upon application in writing, together with a deposit of £1 1s. (One Guinea), from the Borough Engineer, Municipal Offices, South Street, Bridport.

Tenders should be returned to the undersigned, in a plain sealed envelope endorsed "Demolition—5 and 7 East Beach," not later than SATURDAY, 15th July, 1961.

The Council are not bound to accept the lowest or any Tender.

F. C. M. FORWARD, Town Clerk.

Municipal Offices,
Bridport,
21st June, 1961.

CITY OF CAMBRIDGE.

SUPPLY OF STORES.

TENDERS are invited for the SUPPLY of the FOLLOWING MATERIALS commencing 1st October, 1961:

Section I—for a period of 12 months.

- (a) Road Materials, Bituminous Road Emulsion, Kerbing, Paving Granite Chippings, Sand and Gravel, Salt, etc.
- (b) Petrol, Paraffin, Derv Oil, Diesel Oil, Fuel Oil, etc.
- (c) Brush Refills for Mechanical Sweepers.
- (d) Electric Lamps.
- (e) Vehicle Tyres.

Section II—for a period of two years.

- (v) General Building Materials, Cement, Lime Bricks, Rainwater Goods, etc.
- (w) Ironmongery, Hardware, etc.
- (x) Stoneware Pipes, Spun Pipes, etc.
- (y) Protective Clothing, Canvas Hose, etc.
- (z) Paint and Distemper.

All materials (unless otherwise stated) are to be in accordance with the relevant British Standard where such exists.

Applications for Specification and Form of Tender, with the application marked "Application for Tender Documents," should be forwarded to the City Engineer and Surveyor, The Guildhall, and should be accompanied by a large stamped addressed envelope. Applicants should also specify the particular section(s) that they require.

The Tenders, in the envelopes supplied, must reach the City Engineer and Surveyor by 12 Noon, FRIDAY, 1st September, 1961, and must bear the words "Tender for . . ." but shall not bear any name or mark indicating the sender.

The Council does not bind itself to accept the lowest or any Tender.

ALAN H. I. SWIFT, Town Clerk.

The Guildhall,
Cambridge.

CITY OF BIRMINGHAM.

TO BUILDING CONTRACTORS.

CONTRACT 695—10 SHOPS AND 12 DWELLINGS OVER—WYRLEY BIRCH ESTATE, ERDINGTON.

CONTRACT 702—57 ONE-, TWO- AND THREE-STOREY DWELLINGS—SHORT HEATH ROAD, ERDINGTON.

The HOUSEBUILDING COMMITTEE invite TENDERS for the ERECTION OF THE ABOVE.

Bills of Quantities and Forms of Tender will be forwarded on payment of £2 2s. for each Contract at the Office of A. G. SHEPPARD FIDLER, City Architect, Baskerville House, Civic Centre, Birmingham, 1, to whom all cheques should be made payable. Applications should be made by 4th JULY, 1961. Conditions of Contract (which include the usual Fair Wages and Conditions of Labour Clause) may be seen at the City Architect's Office during normal working hours.

The deposits will be returned on receipt of bona fide Tenders or on notification of inability to tender together with the return of the documents not later than three days before the date for receipt of Tenders.

Tenders, enclosed in the envelopes provided for the purpose, must be sealed and delivered to the Town Clerk's Office (Room No. B-31), Council House, Birmingham, 1, not later than 12 Noon on FRIDAY, the 4th August, 1961. Tenders received after that time will be rejected.

The Committee do not bind themselves to accept the lowest or any Tender.

T. H. PARKINSON, Town Clerk.

Council House,
Birmingham, 1.

AMERSHAM RURAL DISTRICT COUNCIL.

ENGINEER AND SURVEYOR'S DEPARTMENT.

LODGE LANE DRAINAGE SCHEME.

The Council will shortly be inviting TENDERS for the ABOVE SCHEME, which comprises the Construction of approx. 1,430 yd. of 6 in. dia. SEWER in Flexibly Jointed Concrete Pipe, Lateral Connections to Properties, and other ancillary works.

It is the Council's intention to invite TENDERS from a selected number of contractors. Contractors who wish to be considered should forward their names and addresses to the Council's Engineer and Surveyor, J. GODBEHERE, A.M.I.Mun.E., Elmodesham House, 42 High Street, Amersham, Bucks., so as to arrive not later than First Post on FRIDAY, the 7th July, 1961.

Proof of the execution of similar work should be given.

H. E. BUXTON, Clerk of the Council.

Elmodesham House,
42 High Street,
Amersham, Bucks.

COVENTRY CORPORATION.

The above Corporation invite, by 18th JULY, entries for selected list of contractors to TENDER for the CENTRAL SWIMMING BATHS PROJECT in Priory Street, Coventry (opposite Lancaster College). The Baths comprise three Pools (one Olympic standard), Restaurant, Slipper Baths, Games Deck, and ancillary accommodation.

Substructure is constructed in Reinforced Concrete; Superstructure is part Steel Frame, part Reinforced Concrete. The Roof is Lattice Steel Frame covered with Lightweight Decking.

Documents available from 1st August.
Tenders due 1st OCTOBER.

CONTRACTS

DEVON COUNTY COUNCIL.

LONDON-PENZANCE TRUNK ROAD, A.38.

LYNEHAM INN IMPROVEMENT—PLYMPTON ST. MARY.

TENDERS are invited for the ERECTION of 2,085 lin. yd. of PERMANENT FENCING.

The Fencing to be 4ft. 6in. high, with dark brown coloured Concrete Posts at 12ft. centres, with one dropper bar between each post. There are to be six wires, each of five strands, secured by clips to the field side of the fence posts. To the lower four strands of wire, black plastic coated chain link mesh 3ft. high is to be fixed. One strand of barbed-wire is to be fixed to the field side at the top of the chain link, and a further strand of barbed-wire to be fixed with the top line at the top of the fence.

Full details may be obtained from the County Surveyor, Coover, Topham Road, Exeter, and Tenders will have to be returned to the CLERK OF THE COUNCIL, The Castle, Exeter, not later than 10 a.m. on MONDAY, 3rd July, 1961.

BOROUGH OF CHELMSFORD.

SURFACING CONTRACTS—1961/62.

TENDERS are invited from contractors with experience of works of similar nature, for CARRYING OUT SURFACING WORKS under five separate Contracts, the location and brief descriptions of which are AS FOLLOWS:

- (1) The Provision and Laying of a Regulating Course of Bituminous Concrete, and a 1 in. Carpet of Hot Rolled Asphalt to specified lengths of Chignall Road.
- (2) Heating and Planing existing Surfaces, and the Provision and Laying of a 1½ in. Surface of Hot Rolled Asphalt to Tindal Square.
- (3) The Provision and Laying of a 1½ in. Regulating Course, followed by a 1 in. Wearing Surface of Bituminous Concrete to Victoria Road Car Park (Second Stage).
- (4) The Making-up of the Haunches to Whitesbridge Road with Bituminous Concrete, followed by a ¾ in. Wearing Surface of Cold Asphalt.
- (5) The Provision and Laying of a Bituminous Concrete Base Course, followed by a ¾ in. Wearing Surface of Cold Asphalt at either end of the proposed new road North Avenue to Patching Hall Lane.

Contractors need not necessarily submit Tenders for all five Contracts, and the Contracts will be on a Fixed-price Basis. No Variation of Price (Labour and Materials) Clause.

Documents may be obtained from the Borough Engineer and Surveyor, Municipal Offices, Coval Lane, Chelmsford, upon payment of a deposit of Two Guineas which will be refunded upon the receipt of a bona-fide Tender not subsequently withdrawn, and the return of all Tender documents. Copies of the Contracts Nos. 1, 2 and 5 may be inspected at the Offices of the Borough Engineer and Surveyor during normal working hours.

Tenders must be received by the undersigned not later than 12 Noon on THURSDAY, 20th July, 1961. The Council do not bind themselves to accept the lowest or any Tender.

B. A. FRANCIS, Town Clerk.

Municipal Offices,
Chelmsford,
June, 1961.

BOROUGH OF BRIDGWATER.

SALMON LANE IMPROVEMENT.

TENDERS are invited for the CONSTRUCTION of 2,080 sq. yd. of REINFORCED CONCRETE CARRIAGEWAYS, 520 lin. yd. of 6 in.-15 in. S.G.W. and Concrete Sewers, and 610 lin. yd. of 6 in. and 18 in. Water Mains, including all ancillary and incidental works.

Full particulars and documents may be obtained from the Borough Engineer, Town Hall, Bridgwater, on payment of a deposit of £2 2s. payable by cheque.

Closing date for receipt of Tenders: 10 a.m. 11th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

H. A. CLIDERO, Town Clerk.

DARLSTON URBAN DISTRICT COUNCIL.

VEHICLES.

TENDERS are invited for the SUPPLY and DELIVERY OF THE UNDERMENTIONED VEHICLES:

- (1) 3-ton Truck with Tipping Gear, Wood Body, 18 in. Drop-sides, Double hinged Tailboard, and Sheet-lined Floor.
- (2) 15 20cw. Low-loading Van, approx. capacity 440 cu. ft., with rear roller shutter, 12 in. Tailboard, and Sheet-lined Floor.

Tender Form may be obtained from the Engineer and Surveyor, Victoria Park, Darlston, and must be returned to the CLERK OF THE COUNCIL, in a plain sealed envelope endorsed "Tender for Vehicles," not later than WEDNESDAY, 12th July, 1961.

MID GLAMORGAN WATER BOARD.

SCHWYLL IMPROVEMENT SCHEME—CONTRACT 2.

SITE CLEARANCE.

TENDERS are invited for the ABOVE CONTRACT for the PREPARATION OF SITE for two 3m. gallon Circular Storage Tanks, involving the Bulk Excavation of approx. 50,000 cu. yd., the Formation of Banks and Batters, the Disposal of Surplus Excavated Material on an adjacent site which is to be graded for eventual return to agricultural use, together with the Construction of certain Ancillary Works.

Copies of the Specification, Bill of Quantities and Form of Tender may be obtained from the Consulting Engineers, MESSRS. THOMAS AND MORGAN AND PARTNERS, 23 Gelliwastad Road, Pontypridd, on payment to them of a deposit of £4 4s. which will be refunded after receipt of a bona-fide Tender not subsequently withdrawn.

Plans may be inspected during the usual office hours (Saturday excepted) at the Offices of the Board or Consulting Engineers.

Tenders must be delivered to the undersigned, in a plain sealed envelope, by Registered Post or Recorded Delivery, endorsed "Schwyll Improvement Scheme—Contract 2," not later than Noon on 24th JULY, 1961.

The lowest or any Tender will not necessarily be accepted.

C. BAKER, Clerk to the Board.

Mid Glamorgan Water Board,
8 Wyndham Street,
Bridgford, Glam.

CONTRACTS

COUNTY BOROUGH OF SOUTHEND-ON-SEA.

Contractors interested in submitting a TENDER for the CONSTRUCTION of TWO SERVICE ROADS of a total length of approx. 110 yd. and THREE "BUS LAY-BYS ON PRINCE AVENUE A-127, submit their works in connection therewith, should submit their names, together with a deposit of £2, before 10th JULY, 1961, to the Borough Engineer and Surveyor for inclusion on a list of contractors from whom Tenders will be invited. The deposit will be refunded on receipt of a bona-fide Tender and/or the return of all loaned documents.

Sealed Tenders, addressed to the undersigned and endorsed "Prince Avenue—Service Roads and Lay-bys," are to be delivered to this Office by 3 p.m. on a date to be specified, and no Tender received thereafter will be considered.

No Tender will be received except in the special envelope provided, which shall not bear any name or mark indicating the sender.

The Corporation do not bind themselves to accept the lowest or any Tender.

ARCHIBALD GLEN, Town Clerk.

Municipal Buildings,
Southend-on-Sea.

BOROUGH OF CHELMSFORD.

CINDER RUNNING TRACK—MELBOURNE PARK.

PROVISION OF COVERED SEATING ACCOMMODATION.

TENDERS are invited for the PROVISION of TWO COVERED STANDS with Seating Accommodation, each capable of seating 500 persons.

Specification and Form of Tender may be obtained from the Borough Engineer and Surveyor, Municipal Offices, Coval Lane, Chelmsford.

Sealed Tenders, in the envelopes provided, must be received by the undersigned not later than 12 Noon on THURSDAY, 20th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

B. A. FRANCIS, Town Clerk.

Municipal Offices,
Coval Lane,
Chelmsford.

BOROUGH OF WESTON-SUPER-MARE.

TRIAL BORINGS—SOIL ANALYSIS.

TENDERS are invited from contractors specialised in boring techniques, for UNDERTAKING approx. 14 TRIAL BORINGS to a depth of approx. 70 ft., obtaining and testing Soil Samples.

Tender documents may be obtained from the Borough Engineer, Town Hall, Weston-super-Mare; drawings may be inspected at that Office during normal office hours.

Tenders must be delivered, in the envelope provided, to the undersigned by Noon, THURSDAY, 13th July, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

R. G. LICKFOLD, Town Clerk.

Town Hall,
Weston-super-Mare.

BOROUGH OF LEYTON.

RECONSTRUCTION OF MAIN OUTFALL SYSTEM AND NEW PUMPING STATION—AUCKLAND ROAD DEPOT.

TENDERS are invited from experienced contractors for the CONSTRUCTION OF SEWAGE COLLECTION AND DISTRIBUTION UNITS at the Council's Auckland Road Depot, commencing the FOLLOWING:

- (i) Primary and Secondary Collecting Bellmouth Chambers, and including the installation of Electrically Operated Control Penstocks.
- (ii) Pumping Station together with the installation of Pumping Units, Venturi-meter Equipment and 36 in. dia. Cast-iron Pipework.

The work also includes the Laying of approx. 435 lin. yd. of 45 in. x 30 in. Concrete Egg-shaped Foul Sewer and 375 lin. yd. of 30 in. dia. Concrete Tube Foul Sewer connecting existing sewers to these units. 195 lin. yd. of 46 in. dia. Concrete Tube Sewer replacing the existing main outfall sewer, and ancillary works.

The Form of Tender, General Conditions of Contract, Specification and Bill of Quantities may be obtained from, and Drawings inspected at, the Office of the Borough Engineer on payment of a deposit of £5 which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn. Copies of the Drawings can be supplied, for which the charge is £2.

The closing date for receipt of Tenders is THURSDAY, 3rd August, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

D. J. OSBORNE, Town Clerk.

Town Hall,
Leyton, E.10.

CITY OF MANCHESTER.

TENDERS invited for ALTERATIONS and CONSTRUCTION of an ISOLATION BLOCK at SOSS MOSS SPECIAL SCHOOL, Cheshire.

Bill of Quantities from CITY ARCHITECT, P.O. Box 488, Town Hall.

Tenders returnable by 26th JULY.

URBAN DISTRICT COUNCIL OF KIDSGROVE.

ERECTION OF 24 HOUSES, 24 GARAGES, TOGETHER WITH SITE WORKS.

APPLICATIONS are invited from contractors who wish to TENDER for the ABOVE WORK at the REAR of GLOUCESTER ROAD, Kidsgrove.

The work will consist of the Erection of 24 Three-bedroom type Houses of traditional construction; 24 Garages constructed of Brick Walls and Reinforced Concrete Roof; and Site Works including Roads, Sewers, and a quantity of Earthworks involving the Removal of a Colliery Spoil Heap.

Forms of Tender and Bills of Quantities will be forwarded as soon as possible after receipt of application, which should be made to the Engineer and Surveyor, Town Hall, Kidsgrove, Staffs., not later than WEDNESDAY, 12th July, 1961, accompanied by a deposit of Two Guineas which will be returned on receipt of a bona-fide Tender.

The Council does not bind itself to accept the lowest or any Tender.

O. LLOYD HURST, Clerk of the Council.

Town Hall,
Kidsgrove, Staffs.,
23rd June, 1961.

CONTRACTS

BOROUGH OF PONTEFRAC.

IMPROVEMENT OF GYPSY LANE, TOWNVILLE.

FIXED-PRICE TENDERS are invited for the EXCAVATION for, and CONSTRUCTION of, approx. 2,130 sq. yd. of CARRIAGEWAY with Hardcore Base, Tarmacadam and Cold Asphalt Surfacing; the Construction of approx. 1,100 sq. yd. of Precast Concrete Paved Footpath, together with Kerbing and Channeling; the Construction of approx. 300 lin. yd. of Bin-dia Surface Water Sewer, Manholes and Connections to Gullies; the Construction of approx. 100 lin. yd. of Bin, Foul Sewer, Manholes, Interception Chambers and Drain Connections; the Provision and Erection of Chain Link and Close Boarded Timber Fencing, and other ancillary works.

Drawings and General Conditions of Contract may be inspected at the Office of the Borough Engineer, Municipal Offices, Pontefract, from whom Forms of Tender, Specification and Bills of Quantities, etc., can be obtained.

Tenders are to be forwarded, in a plain sealed envelope endorsed "Gypsy Lane Improvement," to reach the undersigned not later than 12 Noon on TUESDAY, 25th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. F. ROOK,
Town Clerk.

Municipal Offices,
Pontefract.

BOROUGH OF WOOD GREEN.

CHESTNUT FENCING.

TENDERS are invited for the PROVISION and ERECTION of CHESTNUT FENCING at TWO SITES on the NEW RIVER PLAYING FIELDS.

The Drawings may be inspected at, and the Contract documents obtained from, the Office of the Borough Engineer, Town Hall, Wood Green, N.22.

Tenders, in plain sealed envelopes endorsed "Tender for Chestnut Fencing," but bearing no name or mark indicating the sender, must be returned to the undersigned not later than 12 Noon on WEDNESDAY, 12th July, 1961.

G. W. PLATER,
Town Clerk.

Town Hall,
Wood Green, N.22.
28th June, 1961.

BOROUGH OF WORKSOP.

FIRM-PRICE TENDERS are invited from bona-fide building contractors for the ALTERATION OF, and ADDITION TO, PUBLIC OFFICES at PARK HOUSE, PARK STREET, WORKSOP.

Copies of the Plan and Specification may be obtained from the Borough Engineer, Park House, Worksop, upon payment of a deposit of £3 3s, which will be refunded upon receipt of a bona-fide Tender.

Tenders, in sealed envelopes endorsed "Public Offices," must reach the undersigned not later than Noon on TUESDAY, 18th July, 1961.

The lowest or any Tender will not necessarily be accepted.

RUSSELL C. PHARAOH,
Town Clerk.

Town Hall,
Worksop.

BOROUGH OF BEBINGTON.

CEMENT GROUTING OF NEW CONCRETE CARRIAGEWAY—NEW CHESTER ROAD.

TENDERS are invited for CEMENT PRESSURE GROUTING of approx. 4,000 sq. yd. of ASH FOUNDATION beneath Concrete Road Slabs.

Forms of Tender, Specification and Bills of Quantities may be obtained from the Borough Engineer and Surveyor, Town Hall, Bebington, on deposit of One Guinea, returnable on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes endorsed "Tender—Pressure Grouting New Chester Road," should be received by the undersigned not later than Noon on the 10th JULY, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

G. CHAPPELL,
Town Clerk.

Town Hall,
Bebington, Ches.
28th June, 1961.

BOROUGH OF DAGENHAM.

METAL WINDOW INSTALLATION—MARKS GATE COUNTY JUNIOR SCHOOL.

TENDERS are invited for this SUB-CONTRACT. Tender Forms (obtainable from the Borough Engineer and Surveyor) must be returned to me by 9th AUGUST, 1961.

KEITH LAUDER,
Town Clerk.

Civic Centre,
Dagenham.

CUCKFIELD URBAN DISTRICT COUNCIL.

STREET LIGHTING TO GROUP "A" STANDARDS.

ERECTION ONLY of 40 OCTAGONAL STREET LIGHTING COLUMNS and Three Wall Mounting Fittings, 42 3/4 x 80-W x 5ft. Fluorescent Lanterns and One 2 x 80-W x 5ft. Fluorescent Lantern, complete with all necessary Control Gear.

Site Plans may be inspected at the Council Offices, and copies of the Form of Tender, Specification and Bill of Quantities may be obtained from the Surveyor to the Council on payment of a deposit of One Guinea which will be refunded on receipt of a bona-fide Tender and/or the return of the documents.

Tenders, in plain envelopes to be provided, endorsed "Tender—Street Lighting," but bearing no name or mark of the sender, must be delivered to the undersigned not later than Noon on SATURDAY, 22nd July, 1961.

The Council do not bind themselves to accept the lowest or any Tender and Tenders submitted otherwise than as directed will be rejected.

J. A. EVANS,
Clerk of the Council.

Council Offices,
Oaklands,
Haywards Heath,
Sussex.

TREDGAR URBAN DISTRICT COUNCIL.

TENDERS are invited for ROAD SURFACE DRESSING for the year ending 31st March, 1962. The area of work will be approx. 23,000 sq. yd.

Further particulars and Forms of Tender from the Engineer/Surveyor, Park Chambers, Tredgar, Mon. Tenders required by 12 Noon on FRIDAY, 7th July, 1961.

GERALD F. FOX,
Clerk of the Council.

Bedwellty House,
Tredgar, Mon.

CONTRACTS

BUCKS. COUNTY COUNCIL.

RECTORY ROAD, AMERSHAM M/C.32.

ROADWORKS—RECTORY HILL TO JUNCTION WITH A.416.

TENDERS are invited for ROADWORKS (approx. 300 yd.), comprising Lowering, Reconstruction and Realignment of Carriageway, Earthworks, Sett Kerbing, Channelling, Rolled Concrete Foundation, Tarmacadam Shaping, Drainage, Mass Concrete Retaining Wall, and ancillary works.

Drawings may be seen at the Offices of the County Surveyor, County Offices, Aylesbury, from whom Contract documents may be obtained on payment of a deposit of £2, returnable on receipt of a bona-fide Tender.

Tenders must be received by me by 10 a.m. on MONDAY, 24th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

R. E. MILLARD,
Clerk of the County Council.

County Hall,
Aylesbury,
June, 1961.

BUCKS. COUNTY COUNCIL.

SLOUGH-DENHAM ROAD, A.412.

ROAD RECONSTRUCTION—GEORGE GREEN TO WEXHAM PARK LANE.

TENDERS are invited for the CONSTRUCTION of approx. 1,500 yd. of NEW DUAL 24ft. CARRIAGEWAYS in Lean Rolled Concrete and Asphalt Surfacing, and including Link Road, Demolitions, Footways, Kerbing, Channelling, Drainage and ancillary works.

Drawings may be seen at the Offices of the County Surveyor, County Offices, Aylesbury, from whom Contract documents may be obtained on payment of a deposit of £2, returnable on receipt of a bona-fide Tender.

Tenders must be received by me by 24th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

R. E. MILLARD,
Clerk of the County Council.

BUCKS. COUNTY COUNCIL.

BICESTER-BUCKINGHAM ROAD, A.421.

RECONSTRUCTION OF DUDLEY BRIDGE, TINGEWICK.

TENDERS are invited, on a Fixed-price Basis, for the DEMOLITION of the ABOVE BRICK AND STONE ARCH BRIDGE, and the CONSTRUCTION, as a Replacement, of a REINFORCED CONCRETE BOX CULVERT with rough Wing Walls, square span 9ft. 3in., length 50ft., and ancillary works.

Contract documents and Drawings can be obtained from the County Surveyor, County Offices, Aylesbury, on deposit of £2, which will be refunded on receipt of a bona-fide Tender, and all Drawings issued.

Tenders must be delivered to the undersigned by MONDAY, 24th July, in the envelope provided, endorsed "Dudley Bridge."

The Council do not bind themselves to accept the lowest or any Tender.

R. E. MILLARD,
Clerk of the County Council.

County Hall,
Aylesbury.

COUNTRY BOROUGH OF SOUTH SHIELDS.

TUDOR ROAD SEWER AND ROAD RECONSTRUCTION.

TENDERS are invited for the CONSTRUCTION of a CONCRETE TRUNK SEWER and a ROAD RECONSTRUCTION.

The work involves the laying of 245 yd. of 48in. dia. Reinforced Concrete Pipes, the Construction or Alteration of six Manholes, the Reconstruction of 380 sq. yd. of Road Surface, and 1,650 sq. yd. Footpaths.

The Specification and Bill of Quantities may be obtained from the Borough Engineer, Town Hall, South Shields, upon the payment of a deposit of Five Guineas which will be returnable on receipt of a bona-fide Tender.

Drawings and Conditions of Contract may be inspected at the Office of the Borough Engineer.

Tenders, in the envelope provided, and endorsed "Tudor Road Sewer and Road Reconstruction," should be returned to me not later than 10 a.m. on 20th JULY, 1961.

R. S. YOUNG,
Town Clerk.

BOROUGH OF SLOUGH.

PROPOSED CREMATORIUM.

TENDERS are invited for the ERECTION of a CREMATORIUM at STOKES PLACE, STOKES ROAD, SLOUGH. The Crematorium will have a floor area of 8,000 super. ft. approx., and will include two Chapels, Memorial Chapel, Rest Rooms, Tea Room, Car Parks, Drives, Pergolas, and ancillary services.

Contractors who wish to tender for this work should, not later than Noon on 14th JULY, 1961, so inform the Borough Engineer, Town Hall, Slough, Bucks., who will thereupon supply Forms of Tender and Bills of Quantities.

Applications must be accompanied by a deposit of Two Guineas which will be refunded on receipt of a bona-fide Tender and the return of the Contract documents.

Bills of Quantities will be sent to applicants during week commencing 17th July, 1961, and Tenders, with priced Bills of Quantities, must be received by the TOWN CLERK, Town Hall, Slough, not later than Noon, 22nd AUGUST, 1961.

BOROUGH OF SUTTON COLDFIELD.

ROAD FINISHING WORKS—HARCOURT DRIVE EXTENSION.

TENDERS are invited for FINISHING WORKS which comprise approx. 1,600 sq. yd. of Surfacing, 500 lin. yd. of Kerbing and Channelling, 1,000 sq. yd. of Concrete Flagging, and ancillary works.

Contract documents may be obtained from, and Conditions of Contract and Drawings inspected at, the Borough Surveyor's Office during normal office hours. A deposit of £2 (Two Pounds) is required in respect of the documents, this being returnable on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders should be returned in plain sealed envelopes endorsed "Road Finishing Works—Harcourt Drive Extension," not later than Noon on FRIDAY, 14th July, 1961.

J. P. HOLDEN,
Town Clerk.

Council House,
Sutton Coldfield,
23rd June, 1961.

CONTRACTS

BRECONSHIRE COUNTY COUNCIL.

ROADS AND BRIDGES DEPARTMENT.

BORING AND SOIL TESTING.

TENDERS are invited for BORING and SOIL TESTING to ascertain the suitability of the soil for chemical consolidation of the Foundations for Glasbury Bridge.

Particulars and Forms of Tender from the County Surveyor, Watton Offices, Brecon.

Closing date for receipt of Tenders: THURSDAY, 20th July, 1961.

C. M. S. WELLS,
Clerk of the County Council.

County Hall,
Brecon.

BOROUGH OF WEYMOUTH AND MELCOMBE REGIS.

STREET LIGHTING.

TENDERS are invited for the SUPPLY and ERECTION of approx. 145 GROUP "A" CONCRETE COLUMNS and LANTERNS.

The Columns are to be of the 8D design, manufactured by the Stanton Ironworks Co., Ltd., and the Lanterns are to be of the S.O.50 design manufactured by the A.E.I. Lamp and Lighting Co., Ltd.

Tender documents may be obtained from the Borough Engineer and Surveyor, Town Bridge House, Weymouth.

Tenders, enclosed in plain sealed envelopes, appropriately endorsed, are to be delivered to the undersigned not later than Noon on SATURDAY, 29th July, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

E. J. JONES,
Town Clerk.

Municipal Offices,
Weymouth,
June, 1961.

LEATHERHEAD URBAN DISTRICT COUNCIL.

TENDERS are invited for the RESURFACING of CARRIAGEWAYS, comprising 1,418 tons Bituminous Macadam, 773 tons Gravel Asphalt.

Tender documents, obtainable from the Engineer and Surveyor's Department, Red House, Leatherhead, should be returned by Noon, 15th JULY, 1961.

J. EDE,
Clerk of the Council.

LEATHERHEAD URBAN DISTRICT COUNCIL.

TENDERS are invited for the RESURFACING FOOTPATHS and KERBERING ROADS, including 8,000 sq. yd. Bituminous Macadam, 1,400 sq. yd. Cold Asphalt, and 1,500 lin. yd. Kerbing.

Tender documents, obtainable from the Engineer and Surveyor's Department, Red House, Leatherhead, should be returned by Noon, 15th JULY, 1961.

J. EDE,
Clerk of the Council.

URBAN DISTRICT COUNCIL OF BIDDULPH.

PROPOSED WATER MAIN RENEWALS—WALLEY STREET, CROMWELL STREET AND SHEPHERD STREET AREAS.

The Council invite TENDERS for the LAYING of approximately 590 lin. yd. of 4in. and 3in. CAST-IRON WATER MAINS in VARIOUS ROADS in the Urban District.

Specifications and Tender documents may be obtained from, and the General Conditions of Contract and Drawings may be inspected at the office of, the Surveyor and Water Engineer, Council Offices, Biddulph, upon deposit of the sum of Two Guineas (cheques payable to the Biddulph Urban District Council), which sum will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders must be delivered to the undersigned by not later than First Post on MONDAY, the 17th July, 1961, in sealed envelopes bearing no mark or indication of the name of the sender, but endorsed "Tender for Water Main Renewals."

The Council do not bind themselves to accept the lowest or any Tender.

ROBERT W. TRACE,
Clerk of the Council.

Council Offices,
Biddulph,
28th June, 1961.

CHESHIRE EDUCATION COMMITTEE.

SUPPLY OF SCHOOL FURNITURE.

TENDERS are invited for the SUPPLY of LOOSE and FITTED FURNITURE to all Educational Establishments in the County, for a period of three years commencing 1st April, 1962. Firms must be prepared to tender for and Supply all the Authority's Furniture Requirements to Specifications of the Authority.

Forms of Tender and General Conditions may be obtained from the undersigned. Completed Tenders must be returned to the Clerk of the County Council, County Hall, Chester, by Noon on FRIDAY, 28th July, 1961, in envelope provided.

The Authority may require the submission of samples for all or any items after the receipt of Tenders.

J. G. KELLETT,
Director of Education.

County Hall,
Chester.

GENERAL SHOPFITTING AND SUPPLIES, LTD.

Colchester, London and Bristol, are desirous of contacting small building contractors who would undertake general constructional work and alterations in their own locality, in connection with the company's shopfitting operations. All suitable applicants will be interviewed at their premises. Write in first instance, in confidence, to Managing Director, General Shopfitting and Supplies, Ltd., Bridgefield Gardens, Greenstead Road, Colchester.

TECHNICAL ESTIMATING SERVICES. The country's most accurate estimating service. Civil and building. Large or small contracts. Measurements, Certificates, Help and Advice. Full service.—Head Office: 66 Highbury, Newcastle upon Tyne (Tel. 814027), or Southern Office: 13 Potters Lane, New Barnet (Tel.: Barnet 7037).

ROAD EXCAVATION SUB-CONTRACTORS REQUIRED for excavations in built-up areas, including breaking-out of hardcore and reinforced concrete road slabs at Redhill, Surrey.—Apply: NICHOLSON CONSTRUCTION CO., LTD., Freeland House, Cranleigh, Surrey.

For Contracts received too late for classification see page 1657

APPOINTMENTS VACANT COUNTY BOROUGH OF BURY.

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS:

- Senior Assistant Architect, A.P.T. IV (£1,140-£1,310).
- Assistant Architects (Two), A.P.T. I or II or III (£645-£815 or £815-£960 or £960-£1,140).
- Senior Assistant Planning Officer, A.P.T. IV (£1,140-£1,310).
- Town Planning Draughtsman, Misc. III (£555-£625).
- Temporary Civil Engineering Clerk of Works (Two), Misc. VI (£750-£825).

Appointments (a), (b), (c) and (d) are permanent, and the commencing salary for all the appointments will be fixed according to qualifications and experience.

Applicants for appointment (a) should be experienced in dealing with contracts for large public works, and must be professionally qualified.

Applicants for appointment (b) should have general experience in the design and construction of public buildings, and success in Part I or Part II of the R.I.B.A. Final or Special Examination, or other equivalent at one of the recognised schools of architecture will entitle the applicant to appointment on A.P.T. III.

Applicants for appointment (c) should be experienced in either development control or redevelopment and research projects, and should be professionally qualified.

Applicants for appointment (d) should have had experience in drawing office procedure, and preferably in a town planning office.

Applicants for appointment (e) should have had either experience in dealing with contracts for large sewerage schemes and reinforced concrete works, the duration of this appointment being for 18-24 months, or capable of dealing with large contracts covering all aspects of sewage works construction. In this instance, the duration of the first contract is approx. six months, but it is possible that this appointment will be extended for a period of up to five years until the completion of the first stage extensions.

Consideration will be given to the provision of housing accommodation.

Applications, stating age, qualifications, experience, present and previous appointments, and salary, together with the names of two referees, must reach me by the 24th JULY, 1961.

EDWARD S. SMITH, Town Clerk.

Town Hall, Bury, 8th June, 1961.

BOROUGH OF EALING.

SURVEYING ASSISTANT for civil engineering surveys. A.P.T. II (£855-£1,000 inclusive). 5-day week.

Application Forms, with full particulars and conditions of service, from Borough Surveyor, Town Hall, Ealing, W.5. Closing date: 10th JULY, 1961.

E. J. COPE BROWN, Town Clerk.

Town Hall, Ealing, W.5.

HASTINGS CORPORATION.

APPLICATIONS are invited for the APPOINTMENT of CLERK OF WORKS in the Borough Engineer's Department at a salary on Misc. Grade V (£685-£760), the commencing salary having regard to previous experience.

Candidates should be experienced in the supervision of housing and/or educational projects, be conversant with the interpretation of bills of quantities and specifications, and capable of setting-out and measurement of contract work.

The appointment will be for a minimum period of two years, will be subject to the Local Government Superannuation Acts, and to one month's notice in writing on either side.

Applications, stating age, details of experience, and names and addresses of two referees, should be forwarded to the Borough Engineer, 37 Wellington Square, Hastings, not later than the 10th JULY, 1961.

N. P. LESTER, Town Clerk.

Town Hall, Hastings.

CITY OF CARDIFF.

CORPORATION WATERWORKS.

APPOINTMENT OF ENGINEERING ASSISTANT.

APPLICATIONS are invited for the PERMANENT APPOINTMENT of ENGINEERING ASSISTANT, A.P.T. Grade IV (£1,140-£1,310 p.a.).

Candidates for the post should have passed Parts "A" and "B" of the Examination of the Institution of Civil Engineers, or obtained a University Degree in Civil Engineering, and have completed two years' practical training.

Housing accommodation and a car allowance on the Corporation scale will be available.

General Conditions of Appointment can be obtained from the Water Engineer and Manager, Municipal Offices, Greyfriars Road, Cardiff.

Applications, stating age, previous experience and qualifications, together with the names of two referees, should reach the undersigned, in envelopes endorsed "Engineering Assistant—Waterworks," not later than WEDNESDAY, 12th JULY, 1961.

S. TAPPER-JONES, Town Clerk.

City Hall, Cardiff.

12th June, 1961.

OXFORD REGIONAL HOSPITAL BOARD.

APPLICATIONS are invited for a TEMPORARY POST as RESIDENT ENGINEER to supervise the mechanical and electrical services of a large hospital building contract in Kettering, Northants.

Membership of a Professional Institution would be an advantage. Salary £1,050 p.a.

Applications, giving details of age and previous experience, and names of two persons to whom reference may be made, should be sent to the SECRETARY, Oxford Regional Hospital Board, 43 Banbury Road, Oxford, by First Post on 10th JULY, 1961.

OXFORD REGIONAL HOSPITAL BOARD.

APPLICATIONS are invited for a TEMPORARY POST as RESIDENT STRUCTURAL ENGINEER to supervise a large reinforced concrete hospital building contract at Kettering, Northants.

Applicants should be not less than 25 years of age, and well experienced in reinforced concrete work. A.M.I.C.E. or A.S.T.C.E. would be an advantage. Salary £1,050 per annum.

Applications, giving details of age, previous experience, and the names of two persons to whom reference may be made, should be sent to the SECRETARY, Oxford Regional Hospital Board, 43 Banbury Road, Oxford, by First Post on 10th JULY, 1961.

APPOINTMENTS VACANT KENYA.

MINISTRY OF WORKS.

ENGINEERS (ROADS).

Qualifications: Candidates (not over 45) should have either a University Degree, or equivalent, recognised by the Institution of Civil Engineers, and two years' practical experience; or have passed, or be otherwise exempt from, Parts I and II of the Final Examinations of the Institution of Civil Engineers, and have had not less than five years' practical experience.

Experience should include one or more of the following: (a) Location and preparation of plans and contract documents for the construction of trunk roads; (b) design of roads for rural and urban areas; (c) construction of roads and bridges with modern equipment, either by contract or direct labour. Some knowledge of soil mechanics is required, and experience of soil stabilisation would be an advantage.

Duties will include all aspects of road engineering, including planning and supervision both in the office and in the field.

Terms: On contract for two tours of 24 months in the first instance with gratuity of 25 per cent.

Salary: In scale £1,266-£2,448 p.a.

Free passages. Generous leave. Free medical attention.

Apply DIRECTOR OF RECRUITMENT, Colonial Office, London, S.W.1, quoting BCD.112/7/09.D14, giving full name, age, and brief details of qualifications and experience.

CENTRAL ELECTRICITY GENERATING BOARD.

SOUTH EASTERN REGION—NORTH THAMES DIVISION.

APPLICATIONS are invited for the FOLLOWING APPOINTMENT:

Assistant Engineer (Handling)—West Thurrock Generating Station (Grays, Essex). (S.V. No. 1514).

Salary N.J.B. Class "M" Grade 12, Scale 9 (£1,115-£1,245 p.a. plus £50 p.a. London Weighting).

The duties associated with this post will include the handling of all coal shipped to the station, including the local control of colliers, the disposal of all ash, and the general control of a small labour force.

Applications, quoting "Ref. S.V. No. 1514," stating age, qualifications, experience, and present position, should be sent to the PERSONNEL OFFICER, Central Electricity Generating Board, South Eastern Region, North Thames Division, West Farm Place, Chalk Lane, Cockfosters, Barnet, Herts., to arrive not later than 8th JULY, 1961.

BOROUGH OF TWICKENHAM.

TECHNICAL STAFF.

APPLICATIONS are invited for the FOLLOWING POSTS:

- Senior Assistant Engineer, A.P.T. IV (£1,140-£1,310).
- Planning Assistant, A.P.T. III (£960-£1,140).
- Assistant Architect, A.P.T. I/IV (£645-£1,310).
- Assistant Engineer, A.P.T. I/IV (£645-£1,310).

Posts (a) must have passed the Final of an appropriate examination; (b) commencing salary in accordance with qualifications and experience; (c) and (d) please state qualifications and experience required if appointed.

All plus London Weighting allowance, 5-day week. All plus London Weighting allowance, 5-day week. All plus London Weighting allowance, 5-day week. All plus London Weighting allowance, 5-day week.

Canvassing will disqualify, and relationship to members or senior officers should be disclosed.

Applications, giving age, experience, etc., to the Borough Engineer, Municipal Offices, Twickenham.

W. H. JONES, Town Clerk.

BANSTEAD URBAN DISTRICT COUNCIL.

PUMPING STATION ENGINEER.

APPLICATIONS are invited for THIS POST in the Engineer and Surveying Department. Salary Misc. Grade IV/V (£625-£760 p.a.) plus London weighting £40 p.a.

Casual user car allowance. The Council are prepared to offer housing accommodation and to assist with removal expenses. Telephone provided at home.

Particulars and Application Form from the CLERK, Banstead U.D.C. The Council House, Brighton Road, Banstead, Surrey.

Closing date: 17th JULY, 1961.

KNUTSFORD URBAN DISTRICT COUNCIL.

KNUTSFORD SEWERAGE.

APPOINTMENT OF RESIDENT ENGINEER.

APPLICATIONS are invited for the TEMPORARY FULL-TIME APPOINTMENT OF RESIDENT ENGINEER for this scheme.

It is anticipated that the scheme will commence on the 1st September, and will be of a duration of 12 months. A further scheme and reconstruction of the sewage disposal works may follow.

The salary offered will be at the rate of £1,000 per annum, plus appropriate travelling and subsistence allowances. The appointment will be subject to termination by one month's written notice on either side.

Applications should be submitted to the undersigned not later than 8th JULY, 1961, and should give the following information:

- Name, address and age.
- Present and previous appointments (with dates).
- Details of experience, particularly in relation to sewers up to 30in. diameter.
- Period of notice to terminate present appointment.
- Names and addresses of at least two persons to whom reference may be made.

EDWARD MORLEY, Clerk of the Council.

Council Offices, Toft Road, Knutsford, Cheshire.

COVENTRY CORPORATION.

JUNIOR AND GRADUATE ASSISTANT ENGINEERS, REQUIRED. A.P.T. I, II, III (£645-£1,140).

Many interesting projects are in progress or programmed in the near future, and applicants will include design and supervision of civil engineering works incorporated in the City Redevelopment programme.

Housing accommodation may be available. Removal expenses loan (up to £50) provided where necessary.

Application Forms, from CITY ENGINEER, Council House, Coventry, returnable by 12th JULY, 1961.

APPOINTMENTS VACANT WEST SUFFOLK COUNTY COUNCIL.

APPLICATIONS are invited for the POST of ENGINEERING ASSISTANT, A.P.T. Grade III (£960-£1,140) in the Highways Department.

Candidates should have had five years' experience in the preparation and supervision of schemes for road and bridge construction, and must be qualified civil or municipal engineers. N.J.C. service conditions, post pensionable, medical examination. Possession of car desirable. Travelling allowance according to N.J.C. Scale (Casual User).

Application forms, obtainable from the COUNTY SURVEYOR, Manor House, Bury St. Edmunds, must be returned to him not later than First Post on 11th JULY, 1961.

COUNTY BOROUGH OF EAST HAM.

APPLICATIONS are invited for the FOLLOWING TEMPORARY APPOINTMENT of approx. 18 months duration in the construction of modern steel-framed buildings.

Clerk of Works—A.P.T. II (salary up to £1,000 per annum).

Forms of Application, returnable by the 14th JULY, 1961, from the TOWN CLERK, Town Hall, East Ham, E.6.

METROPOLITAN BOROUGH OF BETHNAL GREEN.

CLERK OF WORKS REQUIRED for extensive new housing scheme. Salary in A.P.T. II (£815-£960) plus London Weighting.

Experience in the supervision of piling and structural work for erection of tall blocks of flats, and layout of estates is essential.

Particulars and Application Forms obtainable from TOWN CLERK, Town Hall, Bethnal Green, E.2.

Completed forms returnable by Noon, 14th JULY, 1961.

WILLENHALL URBAN DISTRICT COUNCIL.

HIGHWAYS SUPERINTENDENT.

APPLICATIONS are invited for the ABOVE POST in the Engineer and Surveyor's Department. Salary within Grade A.P.T. II (£815-£960). A house is available, for which a deduction of £55 per annum will be made. The post is superannuable and subject to N.J.C. conditions of service and one month's notice on either side.

Applicants should have served an apprenticeship in basic trade and have had sound experience in all branches of public works (direct labour and contract), especially construction and maintenance of roads, bridges and sewers, and be familiar with the modern use of plant and transport.

Applications, stating age, experience, qualifications, past and present appointments, together with the names and addresses of two referees, should be received by the undersigned not later than MONDAY, the 10th JULY, 1961.

J. R. RIDING, Clerk to the Council.

Town Hall, Willenhall, Staffs.

WILLENHALL URBAN DISTRICT COUNCIL.

CHIEF ENGINEERING ASSISTANT—A.P.T. III.

APPLICATIONS are invited for the POST of CHIEF ENGINEERING ASSISTANT in the Engineer and Surveyor's Department, from persons possessing the final qualification of a recognised institution and who have had considerable experience in all branches of the work of a Municipal Engineer.

The post offers opportunities for experience in the execution of a considerable programme of capital works, and the control of the drawing office staff.

The salary will be within A.P.T. III (£960-£1,140), and the appointment will be subject to the Local Government Superannuation Acts, and one month's notice on either side.

Housing accommodation available for married applicants and two-thirds removal expenses payable. Applications, together with the names of two referees, should be received by the undersigned not later than First Post on MONDAY, 10th JULY, 1961.

JOHN R. RIDING, Clerk of the Council.

Town Hall, Willenhall.

METROPOLITAN WATER BOARD.

CIVIL ENGINEERING DRAUGHTSMAN.

The Metropolitan Water Board have a VACANCY for a SENIOR DRAUGHTSMAN DESIGNER. Candidates should have had experience in structural and water supply work, the preparation of working drawings from sketches, and preferably, of sewerage works.

Salary scale £1,180-£1,300 p.a. Commencing salary according to age, qualifications and experience. Permanent, pensionable post. Office hours 8.45 a.m.-4.45 p.m. (Monday to Friday). Staff restaurant, sports and recreational clubs, etc.

Further particulars and Form of Application from the undersigned, quoting Ref. (C.J.).

S. D. ASKEW, Clerk of the Board.

New River Head, Rosebery Avenue, London, E.C.1.

SUNDERLAND AND SOUTH SHIELDS WATER COMPANY.

ASSISTANT CIVIL ENGINEERS—DERWENT SCHEME.

APPLICATIONS are invited for TWO POSTS, with commencing salaries within the range of £1,065 to £1,375, according to qualifications and experience. Candidates should have passed the equivalent examinations for Associate Membership of the Institution of Civil Engineers.

The Derwent Scheme comprises a large impounding reservoir with treatment works, trunk mains and service reservoirs. The total estimated cost of the scheme is £9,000,000, and the time required for completion is five years. Construction of the reservoir is in progress, and the successful applicants will be posted initially to the staff of the Resident Engineer.

Subsistence or travelling allowance will be paid to those required to work on the site.

Arrangements can be made for the successful applicants to become or to continue as members of a Local Government superannuation scheme during their service with the company.

Applications, giving full personal particulars and details of qualifications and experience, together with the names of two persons to whom reference can be made, should be received by me not later than 10th JULY, 1961.

A. G. MCLELLAN, General Manager.

29 John Street, Sunderland.

APPOINTMENTS VACANT

COUNTY BOROUGH OF SOUTHEND-ON-SEA.

APPLICATIONS are invited for the APPOINTMENT of DRAUGHTSMAN within Salary Grades of A.P.T. III, according to experience and qualifications (£645-£960).

Applications, giving particulars of age, experience, and previous and present employment, and accompanied by one testimonial, and giving the names of two professional referees, should reach the Borough Engineer, T. B. HILL, M.I.C.E., M.I.Mun.E., A.M.I.W.E., Municipal Buildings, Southend-on-Sea, by MONDAY, 17th July, 1961.

The Council will meet reasonable removal expenses and afford assistance in housing in suitable cases. Canvassing will disqualify.

ARCHIBALD GLEN,
Town Clerk.

Southend-on-Sea,
21st June, 1961.

ROYAL BOROUGH OF NEW WINDSOR.

(AMENDED ADVERTISEMENT.)

ASSISTANT ENGINEER—A.P.T. IV, III, II OR I.

APPLICATIONS are invited from suitably qualified persons.

Commencing salary and grading according to qualifications and experience. Preference will be given to candidates who are Graduates or have passed Examinations of the Institution of Municipal Engineers or the Institution of Civil Engineers with experience in a Municipal Engineer's Department.

10-h.p. car allowance as a casual user. Reasonable removal expenses paid.

Saturday leave three out of every four. Provision of rented housing accommodation considered. Up to 100 per cent. advance for house purchase within the Borough.

Apply for details, Conditions of Appointment and Instructions to Applicant to Borough Engineer, Kipling Memorial Building, Alma Road, Windsor (Tel. 1700, Ext. 7), to whom applications should be sent as soon as possible. (Quote "Ref. A.")

G. N. WALDRAM,
Town Clerk.

BOROUGH OF WORKSOP.

APPOINTMENTS IN THE BOROUGH ENGINEER'S DEPARTMENT.

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS:

Assistant engineer, salary A.P.T. Grade III (£960-£1,140).

Applicants should hold either an engineering degree, the Testamur of the Institution of Engineers, or be qualified for Associate Membership of the Institution of Civil Engineers, and have at least five years' experience, including pupillage. Architectural Assistant, salary A.P.T. Grade III (£960-£1,140).

Applicants should be chartered or registered architects.

The posts are superannuable, and the successful applicants will be required to pass satisfactorily a medical examination.

Housing accommodation will be provided and removal expenses will be paid, if required, by successful married applicants.

Applications, stating age, qualifications, experience, and accompanied by the names of two referees, must reach the undersigned not later than Noon on MONDAY, the 17th July, 1961.

RUSSELL C. PHARAOH,
Town Clerk.

Town Hall,
Worksop.

CITY AND COUNTY OF BRISTOL.

APPOINTMENT OF TRAFFIC ENGINEERING ASSISTANT—GRADE A.P.T. V (£1,310-£1,480 P.A.).

APPLICATIONS invited for POST of a TRAFFIC ENGINEERING ASSISTANT in the City Engineer and Planning Officer's Department.

Candidates should have obtained a British University Degree in Civil Engineering and/or passed Associate Membership Examination of Institution of Civil Engineers, or Testamur of Institution of Municipal Engineers; they should have good general municipal engineering experience, and should be particularly conversant with traffic engineering.

Post permanent, pensionable; medical examination and, except in case of an officer transferred from service of another Local Authority, probationary period of six months.

Housing needs of successful candidate and question of a contribution towards removal expenses will receive favourable consideration.

Applications should be arranged in the following order: Age, nationality and whether married or single; education; training; professional qualifications; present position, with salary and date of appointment; previous positions, with salaries and dates of appointment; details of experience; any further remarks in support of application; notice required to terminate present appointment, whether related to a member or senior officer of the Council; names of two referees. Canvassing disqualifies.

Applications to reach CITY ENGINEER AND PLANNING OFFICER, Cabot House, Deanery Road, Bristol, 1, by 24th JULY.

LEEDS REGIONAL HOSPITAL BOARD.

PROPOSED NEW GENERAL HOSPITAL AT HUDDERSFIELD.

CLERK OF WORKS (BUILDING AND STRUCTURAL)

APPLICATIONS are invited for the APPOINTMENT of CLERK OF WORKS (Building and Structural), in connection with the construction of a new General Hospital at Huddersfield (500 beds; approx. total cost £3.5m.). Salary £1,200 p.a. (under certain conditions, this figure may be increased to provide a maximum of £1,350 p.a.).

The project is being carried out in consecutive phases, under the direction of the Regional Architect, P. B. NASH, A.R.I.B.A., and MESSRS. GEORGE TREW AND DUNN, Private Architects. The main building contract has now been running for one year, and building on the site will continue for another three years.

The Clerk of Works will have an Assistant Clerk of Works (Building) and a Clerk of Works (Mechanical and Electrical) to assist him in his duties.

Applicants must possess a thorough knowledge of all aspects of the building trade, and must have had extensive experience as Clerks of Works on multi-storey reinforced concrete framed buildings. Membership of the Institution of Clerks of Works, or the possession of the Clerk of Works Diploma of the Association of Building Technicians an advantage.

Applications, stating age, qualifications, previous experience, together with the names of two referees, to whom reference may be made, to the SECRETARY, Park Parade, Harrogate, by 15th JULY, 1961.

APPOINTMENTS VACANT

COUNTY BOROUGH OF WEST BROMWICH.

PUBLIC WORKS DEPARTMENT.

APPOINTMENT OF ASSISTANT BUILDING MANAGER.

APPLICATIONS are invited for the ABOVE POST on Grade A.P.T. IV (£1,140-£1,310).

Applicants should have had experience within a large building organisation and be capable of deputising and generally assisting the Works Manager. They should also be capable of estimating for large contracts and agreeing and settling final accounts for direct labour works.

The Department employs some 450 building operatives on major contract work and maintenance.

Preference will be given to persons of L.I.O.B., A.I.Q.S. and H.N.C. standards.

Applications, together with the names of two referees, should be delivered to the undersigned not later than TUESDAY, 4th July, 1961.

W. H. GREENWOOD,
Borough Surveyor.

Town Hall,
West Bromwich.

METROPOLITAN BOROUGH OF ISLINGTON.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

HIGHWAYS INSPECTOR—GRADE A.P.T. II (£815-£960 P.A.) PLUS LONDON WEIGHTING.

APPLICATIONS are invited from suitably experienced persons, not more than 50 years of age, for the ABOVE APPOINTMENT on the Permanent Staff.

Application Forms, returnable by First Post on MONDAY, 10th July, 1961, obtainable from C. N. COWNEY, Borough Engineer and Surveyor, Town Hall, Upper Street, N.1.

H. DIXON CLARK,
Town Clerk.

BOROUGH OF EALING.

(1) PRINCIPAL ENGINEERING ASSISTANT, Highways—A.P.T. V (£1,355-£1,525 inclusive).

(2) SENIOR ENGINEERING ASSISTANT—A.P.T. IV (£1,185-£1,355 inclusive). Car allowance.

(3) ARCHITECTURAL ASSISTANT, drawing courses, Scale A.P.T. IV (£1,185-£1,355 inclusive).

(4) JUNIOR ARCHITECTURAL ASSISTANT—A.P.T. I (£645-£815 plus London Weighting).

Full particulars and Forms of Application from Borough Engineer, Town Hall, Ealing, W.5.

Closing date: 17th JULY, 1961.

E. J. COPE-BROWN,
Town Clerk.

WILLENHALL URBAN DISTRICT COUNCIL.

ENGINEERING ASSISTANT—A.P.T. I.

APPLICATIONS are invited for the ABOVE POST in the Department of the Engineer and Surveyor, salary within Grade A.P.T. I (£645-£850), from persons who have served a period of pupillage and who are pursuing a course of study with a view to qualifying in one of the major institutions. The appointment offers opportunities for participation in the execution of a very large programme of capital works, and scope for initiative.

There are excellent facilities available at Wolverhampton, three miles distance, for day and evening classes in civil and municipal engineering courses, and time off will be granted for approved attendance and, in addition, post entry expenses will be payable.

The appointment will be subject to the Local Government Superannuation Acts and one month's notice on either side.

Completed applications, together with names and addresses of two referees, should be received by the undersigned not later than MONDAY, the 3rd July, 1961.

J. R. RIDING,
Clerk of the Council.

Town Hall,
Willenhall, Staffs.

WIMBORNE MINSTER URBAN DISTRICT COUNCIL.

TEMPORARY CLERK OF WORKS REQUIRED BY the 1st August, to supervise the erection of Council houses, flats, and ancillary works. Salary £16 16s. per week.

Particulars as to the duration of the appointment may be obtained from the Surveyor at the address below.

Applications, stating age, experience, present and previous appointments, with names and addresses of two referees, should be sent to the undersigned by the 11th JULY, 1961.

F. J. RICHMOND,
Clerk of the Council.

Civic Centre,
Wimborne.

COVENTRY CORPORATION.

CHIEF ASSISTANT ENGINEER REQUIRED. Grade "C" (£1,560-£1,825).

Degree in Civil Engineering and/or Associate Membership Institution of Civil Engineers and/or Institution of Municipal Engineers, and considerable experience in civil engineering works essential. Experience central area redevelopment, including road improvements, an advantage.

Housing accommodation may be available. Removal expenses loan.

Application Forms, from CITY ENGINEER, Council House, Coventry, returnable by 12th JULY, 1961.

SHEPPEY WATER BOARD.

DEPUTY ENGINEER AND MANAGER.

APPLICATIONS are invited for the APPOINTMENT of DEPUTY ENGINEER AND MANAGER at a salary in accordance with A.P.T. Grade III/IV (£960-£1,310), according to qualifications and experience. Car allowance on an appropriate scale.

Applications, giving full personal details, qualifications, present grade and salary, experience, and the name and address of two referees, must be received by the undersigned not later than 10th JULY, 1961.

J. GRIFFITHS,
Clerk of the Board.

Bush House,
Trinity Road,
Sheerness, Kent.

FIRST-CLASS AGENT for large reinforced concrete superstructure contract in Kent area. A good salary is offered to the right man, who must possess drive, initiative and ambition. Other details, such as bonus, etc., can be discussed during interview.—Apply in confidence, stating age, experience and previous employers, to Box 1047, c/o Murray and Phelan, Ltd., Columbia House, Aldwych, W.C.2.

APPOINTMENTS VACANT

HERTFORDSHIRE COUNTY COUNCIL.

HIGHWAYS DEPARTMENT.

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS:

(a) Assistant Engineer, A.P.T. IV-V (£1,140-£1,480 per annum).

(b) Engineering Assistant, A.P.T. IV (£1,140-£1,310 per annum).

(c) Engineering Assistant, A.P.T. III (£960-£1,140 per annum).

(d) Quantity Surveyor, A.P.T. III (£960-£1,140 per annum).

(e) Junior Engineering Assistant, A.P.T. I/III (£645-£1,140 per annum).

In the case of appointment (e), transfer to Grades II or III will not be effected until requisite qualifications and experience have been obtained.

Apply, giving details of experience, qualifications, present salary, age and names of two referees, to the COUNTY SURVEYOR, County Hall, Hertford.

CONTRACTS MANAGER REQUIRED. The successful applicant, preferably surveyor-trained, must be thoroughly competent in all trades to manage good-quality work and be responsible for this department. The applicant must be experienced in modern methods of management, including preplanning techniques and production control. A car will be provided, and assistance given with housing if necessary.—Applications to Managing Director, J. R. DEACON, LTD., Lombard Street, Lichfield, Staffs.

SETTING-OUT ENGINEERS.—WILSON LOVATT AND SONS, LTD., Clarence Street, Wolverhampton, have several vacancies for young Engineers on large building contracts, who are experienced in setting-out accurately. The positions will be progressive within a reasonable period to suitable applicants, and will carry a generous salary and other staff security terms.—Applications should state age and, briefly, training and experience.

COMMERCIAL MANAGER.—Expanding civil engineering and building contractors in the Midlands REQUIRE Manager to supervise head office commercial administration as laid down by the company. Sound experience in the industry and administrative ability are essential qualifications. The position offers considerable scope for further advancement and will command remuneration corresponding to its responsibility.—Write Box V.4391, "The Contract Journal."

TECHNICAL ASSISTANT.—WILSON LOVATT AND SONS, LTD., Clarence Street, Wolverhampton, invite applications from fully trained men with H.N.C. or L.I.O.B. in Building and Surveying, for a permanent position in their head office planning and progressing department. Some previous experience in planning research on building contracts will be an advantage.

THE CONSTABLE HART GROUP

REQUIRE several YOUNG MEN, aged between 18 and 25 years, for training for ultimate MANAGERIAL POSITIONS in the surfacing and civil engineering contracting industry. Practical training will be carried out under managers located in London, Derby, Portsmouth and Glasgow areas. Only young men who are prepared to accept responsibility, work hard and who are concerned in being trained for progressive and permanent positions need apply. Applications will be treated in strictest confidence.—Write in first instance, giving full particulars, to:

The Director and General Manager,
CONSTABLE, HART AND CO., LTD.,
Lion House, Richmond, Surrey.

CLERKS OF WORKS.—Applications invited from men experienced in reinforced concrete and steel erection, for contracts on Tyneside and in the Midlands. These are staff appointments, with salary commensurate with applicant's age, qualifications and experience.—Write in confidence, with full details, to Box V.4377, "The Contract Journal."

MANAGER REQUIRED for transport, plant maintenance and construction department. Age not exceeding 45 years. Expanding private company in sand and gravel production, ready-mixed concrete and concrete products. Also plant hire. Value of equipment £350,000. Salary, according to age and ability, not less than £1,500 plus efficiency commission. Permanent, progressive; superannuation. South Coast situation.—Write Box V.4390, "The Contract Journal."

ENGINEER/AGENT REQUIRED by civil engineering department of CONCRETE PILING, LTD., for sewage disposal works contract. Applications are required from men with proven ability of over at least five years on contracts of minimum value £100,000. This position can lead to permanency, and the company operates a pension scheme, to which the successful applicant later becomes eligible.—Please write in confidence, giving full details of experience, and salary required, to Concrete Piling, Ltd., 10 Westminster Palace Gardens, Artillery Row, London, S.W.1.

ASSISTANT REQUIRED for laboratory control of ready-mixed concrete production. Must hold current driving licence.—Write Box V.4376, "The Contract Journal."

ESTIMATOR

Experienced in sports grounds, hard courts, etc., WANTED to cope with expanding business.—Write, with details of previous experience, age, salary required, etc., to:

GRASSPHALTE, LTD.,
90 High Street, Hampton Hill, Middlesex.

MANAGER REQUIRED by electrical contractors engaged on installations, office blocks, schools, general commercial undertakings. Ability to exercise full control of all aspects, including planning, estimating, buying, contract progress and commercial administration, and with experience in negotiating architects and clients. Applicants of preferred age 38-45, experienced in comparable post, are offered good salary, pension scheme, company car, and other attractive conditions.—Write full particulars to Box V.4385, "The Contract Journal."

AUSTRALIA.—JUNIOR ENGINEERS REQUIRED by British company, for civil engineering works in Australia. Assistance with passage will be given. Good salaries will be paid to competent men. Interviews will be arranged in London, but applicants should send all relevant details, by air mail, in the first instance, to K. T. Conway, DAVIS CONTRACTORS PTY., LTD., 82a Oxford Street, Sydney, N.S.W., Australia.

QUANTITY SURVEYOR REQUIRED for civil engineering contracts for the north west area. Keen young man preferred. Good salary and conditions. Please send full details of experience to Box V.4349, "The Contract Journal."

APPOINTMENTS VACANT

AGENT AND SENIOR ENGINEER REQUIRED for construction of dam in Wales. These are permanent and progressive posts and applicants must have experience of similar work.—Applications, which will be treated with the strictest confidence, should give full details of previous experience and salary required, to Box V.4347, "The Contract Journal."

CONSULTING ENGINEERS REQUIRE qualified CIVIL or STRUCTURAL ENGINEERS at their Glasgow and Birmingham offices to supervise reinforced concrete and structural work generally. Site experience of reinforced concrete essential. Salary £1,500 to £1,700 per annum, according to experience. Pension and bonus schemes in operation.—Write, stating age, qualifications, full details of experience and names of previous employers, to Box V.4346, "The Contract Journal."

CIVIL ENGINEERS—Well-established civil engineering contractors REQUIRE the following staff for motorway and other contracts in the Midlands and South West: (a) ASSISTANT ENGINEERS, Junior and Senior; (b) PLANNING ENGINEERS; (c) SOIL MECHANICS ENGINEERS (d) SENIOR MEASUREMENTS ENGINEER. These positions offer scope for advancement in an expanding organisation for energetic and capable Engineers. Salaries will be above average for the right men. Applications from qualified Engineers with experience in contractors' site organisation should give age, qualifications, and fullest details of experience. Applications will be treated with confidence and will be acknowledged. Box C1601 LPE, 60/62 St. Martin's Lane, London, W.C.2.

HOLLAND & HANNEN AND CUBITTS (GREAT BRITAIN), LTD.

REQUIRE experienced SITE CLERK/TIMEKEEPERS for duties in the London area. Permanent positions with staff bonus and pension schemes.—Applications should give full details of age, experience and salary required, to:

Personnel Manager (M.6812),
HOLLAND & HANNEN AND CUBITTS
(GREAT BRITAIN), LTD.,
1 Queen Anne's Gate, London, S.W.1.

TRAVELLER REQUIRED. Must be well introduced to local authorities and road contractors in Notts., Derbys., Staffs. and Cheshire, to sell coated and dry limestone from modern quarry in Derbys. Car provided.—Write Box V.4375, "The Contract Journal," giving experience and salary required.

SENIOR ESTIMATOR REQUIRED by building contractors whose head office is near Guildford. Applicants, who should be fully experienced, are invited to send full details of experience and qualifications in confidence to Box Z2.523, "The Contract Journal."

INSPECTORS REQUIRED on M.2 Motorway in Kent. Previous experience of road construction and/or bridge construction essential.—Apply in writing, with references, to FREEMAN, FOX AND PARTNERS, 67 Buckingham Palace Road, London, S.W.1.

SENIOR SURVEYORS.—WILSON LOVATT AND SONS, LTD., Clarence Street, Wolverhampton, invite applications from fully trained and experienced Quantity Surveyors for their head office in Wolverhampton. Liberal salary, terms and conditions will be offered to suitable applicants.—Replies will be treated in strict confidence.

THE LONDON FERRO-CONCRETE CO., LTD.

(a) **WORK STUDY ENGINEERS** REQUIRED to introduce time and method study into the manufacture and erection of all types of reinforced concrete structures.

(b) **CONTRACTS PLANNING ENGINEER** REQUIRED for programming all contracts. Top salaries will be paid to selected Applicants. Assistance can be given with housing, and the posts are permanent and pensionable.—Details of age and experience should be sent to:

The Contracts Manager,
THE LONDON FERRO-CONCRETE CO., LTD.,
Maxted Close, Hemel Hempstead, Herts.

CIVIL ENGINEERING GENERAL FOREMEN.—Large civil engineering contractors REQUIRE General Foremen for bridge and drainage work on motorways and other contracts. Applicants are invited from experienced Foremen with good records for drive and initiative with large civil engineering contractors. Generous remuneration for the right men. Please give fullest possible particulars, which will be acknowledged and treated in confidence.—Write Box C1602 LPE, 60/62 St. Martin's Lane, London, W.C.2.

COST SURVEYORS.—WILSON LOVATT AND SONS, Clarence Street, Wolverhampton, invite applications from fully trained Cost Surveyors capable of site measuring and preparing site costs. A very good salary, terms and conditions will be offered to suitable applicants.

TARMAC CIVIL ENGINEERING, LTD., have vacancies on their outside contract staff for OFFICE MANAGERS, ASSISTANT OFFICE MANAGERS, and SITE CLERKS to train as Office Managers. Good remuneration and prospects of advancement, continuity of employment to suitable applicants experienced in any of the above positions, who are prepared to travel. Apply in writing, stating age, details of previous employment (which will be treated as strictly confidential), to the Personnel Officer, TARMAC CIVIL ENGINEERING, LTD., Ettingshall, Wolverhampton.

EXPERIENCED SECTION FOREMEN

REQUIRED for large civil engineering contract overseas. Must have good all-round experience, including reinforced concrete, piling and heavy muck shifting.—**WRITE BOX V.4306, "THE CONTRACT JOURNAL."**

SUPERVISOR REQUIRED by CONSTABLE, HART AND CO., LTD., for their Southern Area. Experienced in carrying out all types of surfacing work essential. Car provided; pension scheme in operation. Applications in writing to Lower Drayton Lane, Cosham, near Portsmouth, Hants.

SENIOR ENGINEER/AGENT REQUIRED to take charge of small- and medium-size contracts in an area Berks./Bucks. Experience in control of several contracts collectively is the minimum experience required. Generous salary, car and pension scheme, and considerable scope for advancement in expanding organisation.—Write, giving full details of experience, age, and salary required, to Box V.4356, "The Contract Journal."

APPOINTMENTS VACANT

AMBITIOUS TRANSPORT/SALES MANAGER REQUIRED for progressive company producing and distributing aggregates in London area.—Write fully: Monomark BCM/PTRY, London, W.C.1.

SENIOR QUANTITY SURVEYOR.—A well-known and old-established national building and civil engineering contractor with head office in the Midlands offers a permanent position to a senior trained Surveyor, age range 30-40 years. He should be able to produce proof of handling final accounts and valuations from start to finish on large contracts for a similar contractor. A very good salary will be paid, and other security staff terms and conditions will be discussed at an interview.—All written applications will be treated in strict confidence, and should be addressed to Box V.4303, "The Contract Journal."

BUILDING SURVEYOR/SUPERVISOR REQUIRED for old-established East London building contractors. Permanent position and good prospects.—Write, stating age, experience, and salary required, to Box V.4308, "The Contract Journal."

THE LYON GROUP

REQUIRE ASSISTANTS in their contracts department. Young men in their early twenties with sound basic training in the industry are required to act as Assistants to Contracts Managers. The successful applicants will be required to use their own initiative in a wide variety of tasks, and must be capable of being trained into filling managerial positions themselves in the foreseeable future. These positions offer excellent opportunities for advancement, and a expanding group for ambitious and hardworking young men. The group operates a non-contributory pension and profit-sharing scheme.—Apply:

Managing Director,
RONALD LYON CONSTRUCTION, LTD.,
Auckland House,
New Zealand Avenue, Walton-on-Thames, Surrey.

SITE ENGINEER for civil engineering contracts, with three to five years' experience, REQUIRED immediately.—**THOMAS VALE AND SONS, LTD.**, Stourport-on-Severn. Telephone: Stourport 2462.

PLANNING ASSISTANT REQUIRED for Berkshire head office of civil engineering contractors engaged on roadworks, main drainage and sewage disposal and water supply contracts. Duties will include contract planning, taking-off materials, preparation of working details and design of temporary works. Applicants should have good basic civil engineering training and at least three years' site experience. Permanent post with prospects; pension scheme.—Write, stating age, salary, and details of training and experience, to Box V.4354, "The Contract Journal."

EXPERIENCED SITE ENGINEER REQUIRED by civil engineering contractors, for roadworks, main drainage, and sewage disposal contracts, Southern Counties. The position is permanent, with pension scheme, carrying a substantial salary, and offers exceptional prospects of advancement to higher grades in an expanding organisation.—Write in confidence, stating age, full details of experience, and past employers, to the Personnel Manager, Box V.4355, "The Contract Journal."

ASSISTANT ENGINEER/SURVEYOR

REQUIRED by small civil engineering contractors concerned mainly with construction and surfacing of private estate roads, drives, car parks, factory roads, etc., with tarmacadam and tarmacpaving. Previous experience not essential.—Write, stating age and salary required, to:

STANLEY LUCAS (SLOUGH), LTD.,
Alexandra Road, Slough.

MEASUREMENT ENGINEERS AND **QUANTITY SURVEYORS** REQUIRED for motorways, industrial contracts, etc., in Cheshire and the North Midlands. Permanent positions with good prospects. Bonus and superannuation schemes in operation. Applicants must have contracting experience and should apply, in confidence, to the Personnel Officer, TARMAC CIVIL ENGINEERING, LTD., Ettingshall, Wolverhampton.

REQUIRED for contracts in the Leeds area: **BONUS SURVEYOR**.—Apply, in writing, to: REEMA (CHESTERFIELD), LTD., Stortforth Lane, Birdholme, Chesterfield.

SECTION ENGINEERS REQUIRED by national contractors for civil engineering contracts near London and in the south west of England. An opportunity with good prospects to join a growing organisation. Good pay, pension and bonus scheme.—**Write Box V.4348, "The Contract Journal."**

SITE ENGINEERS, for setting-out on building contracts, aged 25/30, are REQUIRED for North-West engineers immediately. Salary offered will be based on qualifications and experience.—Apply in writing, giving details, to J. GERRARD AND SONS, LTD., Swinton, Lancs.

EXPERIENCED OUTSIDE GENERAL FOREMAN REQUIRED, with ability to organise site labour on building contracts, aged 25/32. Salary according to experience and ability.—Apply in writing, giving full particulars of experience, to J. GERRARD AND SONS, LTD., Swinton, Manchester.

LAND SURVEYORS/ENGINEERS

Lucrative careers, pension, overtime, tax-free allowances for competent instrument men.

WRITE BOX V.4344, "THE CONTRACT JOURNAL."

YOUNG CIVIL ENGINEER REQUIRED for fixing lines and levels for roads and sewers. Must be able to drive van.—Apply, stating age, experience, and salary required, to FORDYCE BROTHERS, LTD., 95/97 Cray Avenue, Orpington, Kent.

ESTIMATOR REQUIRED for contractor's area office in Stockton. Applicants must have experience in contracting and be tendering for civil engineering contracts up to £500,000. Permanent position, with good prospects; starting salary commensurate with experience. Bonus and superannuation schemes in operation. Applications in confidence, to the Personnel Officer, TARMAC CIVIL ENGINEERING, LTD., Ettingshall, Wolverhampton.

GENERAL FOREMAN REQUIRED, S.E. London/N.W. Kent. Thoroughly experienced all trades, including reinforced concrete framework.—Apply, stating age, experience, and salary required, to J. STEVENS (BUILDERS), LTD., Marlow Close, Welling, Kent.

APPOINTMENTS VACANT

ESTIMATOR REQUIRED by old-established and rapidly expanding firm of building and civil engineering contractors. Candidates must have had at least 10 years' successful experience in tendering for contracts up to £500,000, both in building and civil engineering, and be fully conversant with modern methods of analysis of rates, and be capable of working with minimum supervision.—Apply with housing if required.—Apply in confidence, giving full details of experience, age, and salary required, to WM. EAMES AND CO., LTD., Vicarage Lane, Blackpool.

SITE ENGINEER for large reinforced concrete contract, Central London.—Applications in writing, giving full details, to Personnel Manager, FORD AND WALTON, LTD., Walton House, Warton Road, E.15.

CEMENT AND CONCRETE ASSOCIATION—WORKS SUPERVISOR. The Association has a vacancy on its technical advisory staff for a Works Supervisor. The work will be chiefly in the field of highway construction, and the successful applicant will be required to visit road sites in the United Kingdom to advise on design and constructional methods. Previous experience with a local authority or contractor as a highways superintendent, clerk of works, sub-agent, or in a senior supervisory post, would be an advantage. The preferred age is 25-40.—The post is permanent and pensionable, and further information can be obtained from the Chief Advisory Engineer, Technical Services, Cement and Concrete Association, 52 Grosvenor Gardens, London, S.W.1.

ENGINEER, conversant with road construction setting-out, REQUIRED.—Please apply in writing, giving details of experience, to Labour Department, GILBERT-ASH, LTD., 2 Stanhope Gate, London, W.1.

STAVERTON CONTRACTORS (WALES), LTD.

REQUIRE the following staff to fill vacancies arising from development of expansion in the area, new offices now in course of construction:

CONTRACTS SUPERVISOR

To control a number of sites, experienced in R.C. civil engineering, modern techniques, working to a programme, and cost conscious. Transport provided.

SENIOR QUANTITY SURVEYOR

Capable of handling measurement of contracts, interim and final accounts. Transport provided.

BONUS SURVEYOR

For large housing contract at Swansea. All operations are in South Wales, and permanent posts are offered to competent, conscientious men. Superannuation fund and generous profit-sharing scheme in operation. Five-day week.—Apply, marked "Confidential," giving full details of past experience and salary required, to:

General Manager,
STAVERTON CONTRACTORS (WALES), LTD.,
Imperial Buildings, St. Mary Street, Cardiff.

CIVIL ENGINEERING.—Site Staff REQUIRED. Southern Areas. AGENTS, ENGINEER/AGENTS and GENERAL FOREMAN—road construction works. Chief quantity surveyors, permanent positions offered to suitably qualified personnel.—Apply with full details: NICHOLSON CONSTRUCTION CO., LTD., Freeland House, Cranieigh, Surrey.

FOREMAN CARPENTER REQUIRED, with drive and initiative, for reinforced concrete work in Salisbury area. Good prospects for experienced man. Apply in writing, giving particulars of previous employers, and salary required, to Personnel Manager, MEARS BROS. (CONTRACTORS), LTD., 154 Sydenham Road, S.E.26.

SENIOR SURVEYOR REQUIRED for major contract in Southampton area. Ability to deal with all aspects of final account required.—Please write, giving details of experience, salary required, etc., to: Chief Quantity Surveyor, WILSON LOVATT AND SONS, LTD., 16 Grosvenor Crescent, London, S.W.1.

FIELD ENGINEERS REQUIRED for concrete design, testing and soil mechanics, for contracts in London and Home Counties.—Write, giving full details of experience, last three employers, and salary required, to: Contracts Manager, FITZPATRICK AND SON (CONTRACTORS), LTD., 455 Old Ford Road, London, E.3.

SERVICE MANAGER

Tractor and Equipment Division.—**SERVICE MANAGER** REQUIRED now by internationally known British company with its associate company in East Africa. The company is the largest importer into Kenya, Uganda and Tanganyika of contractors' plant, including the world's best known line of earthmovers. It has fully established engineering workshops and field service organisations based throughout the territories. The appointment is an important one, requiring both technical and managerial skills, and the candidate selected should be capable of the adequacy, efficiency and profitability of the whole service organisation. Aged 30-40 years. Salary around £2,400, but dependent on qualifications and experience. Pension fund. Tours of two or four years at employee's option with paid leave.—Write at once, stating age, qualifications and experience, to:

BOX V.4370, "THE CONTRACT JOURNAL."

SITE STAFF, including BUILDERS' SURVEYORS, QUANTITY SURVEYORS, ESTIMATORS, ENGINEERS and GENERAL FOREMEN for large-scale land and housing development extending to several years, in Cheshire and Shropshire. Permanent positions. Application forms: DIRECTOR, HENRY BOOT AND SONS (CIVIL ENGINEERING), LTD. (Members of Henry Boot Group of Companies), Banner Cross Hall, Sheffield, 11.

BUILDING MANAGER/AGENT for large-scale housing development, Cheshire and Shropshire. This development was extended over several years and offers scope and opportunity and permanency for first-class man.—Apply Director, HENRY BOOT AND SONS (CIVIL ENGINEERING), LTD. (Member of Henry Boot Group of Companies), Banner Cross Hall, Sheffield, 11.

T.G. CONSTRUCTION CO., LTD. (a member of the Tarmac Group), REQUIRE BUILDING GENERAL FOREMEN for contracts within the Midlands area. Positions offer first-class conditions and excellent opportunities for experienced men.—For instance, giving particulars, to the Personnel Officer, T.G. Construction Co., Ltd., Ettingshall, Wolverhampton.

FIRST-CLASS AGENT REQUIRED for major road improvement scheme. Must be experienced in this type of work. Good prospects and salary. Car provided. Permanent position with expanding company. Write Box V.4401, "The Contract Journal."

APPOINTMENTS VACANT

FITZPATRICK AND SON (CONTRACTORS), LTD.—Have following vacancies in their H.O. organisation: **TRANSPORT CLERK, CLERK, ACCOUNTS CLERK, COST CLERK, SITE CLERKS** (London area). Write or phone the Secretary, 455 Old Ford Road, London, E.3 (ADV 2991), for particulars and interview.

CONTRACTORS' PLANT FITTERS AND ELECTRICIANS REQUIRED for company working in South America. Only fully experienced men will be considered. — Write Box V.4402, "The Contract Journal."

BUILDERS' SURVEYOR REQUIRED by medium-sized company operating in the Home Counties and North of the Thames. Duties: administration of contracts from Wembley office under supervision of working directors, progress, variations, interim payments and final accounts. Salary £1,250 p.a. plus bonus. Car provided. — Apply in writing, stating age and experience, to Box V.4416, "The Contract Journal."

LOWTON CIVIL ENGINEERING, LTD.

REQUIRE Experienced SITE AGENTS, GENERAL FOREMEN, TRADES FOREMEN, SITE CLERKS for contracts all areas. Excellent prospects. Apply, with full details, marking envelope with position required, to:

LOWTON CIVIL ENGINEERING, LTD.
Lowton St. Mary's, near Warrington, Lancs.

MEDIUM-SIZED Merseyside civil engineering contractors with a variety of interesting road, sewer and bridge contracts in Lancashire and North Cheshire. REQUIRE the following staff: **PLANT MANAGER**—to take complete control of an expanding plant department. Applicants for this position should be aged 35 to 50, have a proved record in the handling of contractors' plant, **SENIOR AGENT**—with experience in bridge construction, to supervise a group of motorway bridges in North Cheshire, a qualified Civil Engineer would be preferred, but this is not essential if the applicant can show a wide experience in this field. **QUANTITY SURVEYOR**—for the preparation of interim and final accounts for civil engineering contracts. **ASSISTANT CIVIL ENGINEERS** with previous contractors experience, for setting-out, must be accurate instrument men. The above appointments are intended to be permanent and carry top salaries and allowances, together with entrance to non-contributory superannuation scheme after a trial period. — Write Box V.4399, "The Contract Journal."

EXPERIENCED CIVIL ENGINEER REQUIRED in civil engineering contractors' London office. Duties include tendering, planning, and assisting in the control of contracts. Most of the work will be concerned with major civil engineering works abroad, and some travel may be involved. — Write Box V.4409, "The Contract Journal."

WAGES CLERK (Senior). Experienced man or woman REQUIRED by large firm of public works contractors, for head office, London, S.W.1. No Saturdays. L.V.—Write, stating age, experience, and salary required, to Box V.4405, "The Contract Journal."

MECHANICAL MAINTENANCE SUPERVISOR

Reporting directly to plant superintendent, is REQUIRED for mining operation. Must be qualified in the maintenance and repair of mining plant, and competent to organise and supervise men. Good opportunity for advancement. Housing available. State salary required, and give details of experience, qualifications, references and other pertinent information in first letter.

WRITE BOX V.4319, "THE CONTRACT JOURNAL."

ASSISTANT BUILDING SURVEYOR REQUIRED by public company based in Croydon and covering Southern England. Applicants should be members of professional institutes and qualified to handle building construction and alterations and general property matters. Salary in the region of £1,100 per annum. The post is pensionable and a car will be provided. Write Box V.4414, "The Contract Journal."

TERSONS, LTD. Invite applications for the positions of **BUILDING AGENTS** to take charge of projects in advance of £250,000. Experience in reinforced concrete work essential. The positions offer an attractive salary, bonus arrangements and car allowance. With a view to permanency, successful applicants will be invited to join the company's pension scheme after a satisfactory trial period. — Written applications in confidence, should be addressed to the Secretary, Tersons, Ltd., Dollis Park, London, N.3 (Ref. "J.H."), stating age, full details of experience, and commencing salary required.

SENIOR SOILS MECHANICS TECHNICIAN REQUIRED to take charge of all testing in the laboratory of a leading firm of contractors. Previous and extensive testing experience essential, together with ability to control and instruct staff. This is a new post and will provide scope for advancement. Applications, with particulars of training, experience, age, present position, and salary, to be addressed to Box 555331, J.A.K. Advertising, 212a Shaftesbury Avenue, W.C.2.

CIVIL ENGINEER

REQUIRED for civil engineering contracts, including heavy foundations, reinforced concrete bridge works and sewage disposal works. Successful applicant would be required to work under the control of a civil engineering agent, and previous experience in this type of work is essential. Excellent prospects are offered in a well-established and expanding organisation. We have a progressive staff policy operating superannuation profit-sharing schemes and assistance in car purchase. — For further details and application form, apply, in confidence, giving brief particulars, to:

Civil Engineering Production Manager,
C. BRYANT AND SON, LTD.
65 Whitmore Road, Birmingham, 10.

ASSISTANT PLANTS ENGINEER.—Applications are invited from qualified Engineers with considerable works experience for the position of Assistant Plants Engineer on the company's extensive concrete plants. The post is suitable for a man aged 25 to 35, with experience in concrete works, plant installation and production problems. It is intended that the successful applicant shall succeed the present Plants Engineer, who will be retiring in a year's time. — Write in confidence to the Staffing Officer, with full details of qualifications and experience, **THE STANTON IRONWORKS CO., LTD.**, near Nottingham (P.O. Box No. 3).

APPOINTMENTS VACANT

SUMO PUMPS, LTD. wish to appoint **SALES REPRESENTATIVE** for the Midlands and the South, to specialise in the sale of electro-submersible drainage pumps. Proven ability to sell, and first-class connections in the building and civil engineering industries are essential. — Written applications to Sales Director, Sumo Pumps, Ltd., Gatwick Road, Crawley.

BARRIER-GREENE DRIVERS, fully experienced, urgently REQUIRED for work in Midlands area. Applicants please apply to Roads Department, **AMALGAMATED ASPHALTE COS., LTD.**, Moor Lane, Witton, Birmingham, 6. Telephone: Birchfields 5831.

YOUNG ENGINEER REQUIRED immediately to take charge of water supply contract first instance. Good salary and permanent position offered to suitable applicant who is ambitious. — Please state full details in confidence, present salary and when free to commence, to **MIDLAND CONSTRUCTION CO. (BIRMINGHAM), LTD.**, 47-50 Lower Dartmouth Street, Birmingham, 9.

CIVIL ENGINEERING GENERAL FOREMAN

A position with prospects of promotion in a rapidly expanding company is offered to a suitable applicant who is prepared to take responsibility on large contracts. A commensurate salary will be paid, together with participation in bonus and pension schemes. — Write, with details, to:

BOX A.B.559, "THE CONTRACT JOURNAL."

THE MITCHELL CONSTRUCTION CO., LTD. invites applications for the position of **PERSONNEL MANAGER**. This is a new appointment; it will be well remunerated, and the successful applicant will be responsible to the Board, through the Managing Director, for arrangements attaching to staff recruitment and for the administration, improvement and expansion of established personnel practices and training schemes (the latter covers both university graduates and school-leavers at G.C.E. level). Applicants should preferably be university graduates and have personal experience in a similar appointment, with consequent knowledge of the responsibility and opportunities attaching to it. — Please send brief details in confidence, to Mrs. D.M. Smith, Secretary to Managing Director, Wharf Works, Peterborough.

PLANT AND TRANSPORT MANAGER REQUIRED to take charge of maintenance, repair, etc., and operation of medium-sized South Wales contractors' plant and transport. Plant includes: Ruston Excavators, cranes, Caterpillar tractors, Bedford lorries, etc. Good salary; pension scheme. — Please write, giving full particulars of experience and present salary (age 35-45 preferable), to Box V.440, "The Contract Journal."

AGENT/ENGINEER REQUIRED immediately for main drainage contracts. This is a progressive position for applicant who is keen and cost-conscious. Good salary, etc. Car supplied, or car allowance. Please write in strictest confidence, stating age, present salary and full details of experience, to **MIDLAND CONSTRUCTION CO. (BIRMINGHAM), LTD.**, 47-50 Lower Dartmouth Street, Birmingham, 9.

GREENHAM READY MIXED CONCRETE, LTD.

REQUIRE SENIOR SALES REPRESENTATIVE and Two SHIPPING DISPATCH CLERKS, preferably with experience. Pensionable appointments, with usual benefits and good opportunity for advancement. Please apply in writing or telephone:

GREENHAM READY MIXED CONCRETE, LTD.
Narcovia Wharf, Townsend Road, Fulham, S.W.6.
Telephone: RENown 6592—Ext. 1.

HOT-ROLLED ASPHALTE SUPERVISOR urgently REQUIRED, to work from our Birmingham branch. This is an excellent opportunity for man with experience and with drive and ambition. Contributory pension scheme and company car provided. — Write in confidence, stating age, experience and salary required, to Area Manager, **AMALGAMATED ASPHALTE COS., LTD.**, Moor Lane, Witton, Birmingham, 6.

HOWARD FARROW, LTD. REQUIRE SITE ENGINEERS for civil engineering contracts. Applicants must have had practical experience on sites of various types of work. Positions are permanent and offer good conditions of employment, with a pension scheme, and opportunities for promotion. — Applications, giving full details of training, experience and qualifications, to Ref. F.G. **HOWARD FARROW, LTD.**, C.E. Division, Highfield Road, N.W.11.

PLANT FITTER AND DRIVER urgently REQUIRED for medium-sized contractor in Surrey/Kingston area. — Telephone: Emberbrook 4945.

CLERK OF WORKS, qualified and experienced only. Job 12 months; large factory near Portsmouth. Salary £1,400, start August. — Write, giving full details, to Box V.4419, "The Contract Journal."

PLANT MANAGER REQUIRED by building and civil engineering contractors in North West. Capable of taking full charge of repair and maintenance shop, and outside site plant organisation. Appropriate salary offered to fully qualified and capable applicant. — Apply in confidence, with full details of age and experience, to Box J.250, 51 Station Road, Northwich, Cheshire.

ASSISTANT HOME SALES MANAGER

EARTHMOVING EQUIPMENT. — Old-established company, situated in Middlesex. REQUIRE urgently an **ASSISTANT HOME SALES MANAGER** with experience of all earthmoving equipment and sales of such. This is a progressive post and pensionable. Only applicants submitting full details of their experience, age and schooling will be considered. — Please apply, in writing, to:

BOX V.4410, "THE CONTRACT JOURNAL."

FULLY experienced CARPENTERS, GANGERS, TIMBERMEN, PIPELAYERS, CONCRETERS and SEWER NAVVIES REQUIRED for large storm water contract. W.R.A. conditions. — Apply **HARROW AND HEALES LTD.**, New Cheltenham Road, Kingswood, Tel.: Bristol 671848 or Bristol 292826.

GENERAL FOREMAN. — Bedford firm REQUIRES an experienced General Foreman for small housing estates and flats. Must be able to handle all types of labour, keep clear records, and do accurate setting-out, and settling for roadwork as well as building. Only competent men with good record, who can justify high wage, need apply. Permanent. — Write Box V.4407, "The Contract Journal."

APPOINTMENTS VACANT

SALES/TECHNICAL REPRESENTATIVE. Products for water and public authorities. Resident Midlands area. Expanding business with excellent prospects for the right man. — Write Box V.4406, "The Contract Journal."

YOUNG ENGINEER/AGENT REQUIRED to control small roadworks contracts in Home Counties. Write: **WAYWARDEN, LTD.**, 215 Forest Road, E.17.

CHIEF ENGINEER. — **RAPID METAL DEVELOPMENTS, LTD.**, a leading company supplying a well-established and popular system of steel formwork and other equipment for the building and civil engineering industries, REQUIRE a Chief Engineer. Applications are invited from Civil Engineers of good standing, and preferably with University Degree, or equivalent. Experience in construction industries essential. The successful applicant will be required to assume responsibility for formwork designs for construction schemes, development and control of engineering staff. This appointment offers an excellent opportunity for advancement for the right type of applicant who is prepared to assume responsibility and display managerial qualities. Age 28-40. Salary according to experience and ability. — Applications in confidence, stating age, qualifications and experience, to the Secretary, 395 George Road, Birmingham, 23.

MANAGER WANTED to take complete charge of quarry in West Indies in October. — Write, giving full details, to Box V.4420, "The Contract Journal."

GENERAL FOREMAN REQUIRED for large and interesting civil engineering contract in Home Counties, 25 miles S.W. of London. Very good conditions of salary and bonus for keen man, with prospects of permanent employment with expanding, nation-wide concern. — Write Box V.4418, "The Contract Journal."

APPOINTMENTS WANTED

FOREMAN, 31, wide range of experience in building and civil engineering, earthmoving, sand and gravel quarrying and processing. Skilled fitter, welder and machine operator. Accustomed to controlling skilled and unskilled labour, also training maintenance men, welders and machine operators. SEEKS POSITION where skill and knowledge are required and rewarded. Write Box W.4345, "The Contract Journal."

OFFICE MANAGER SEEKS SENIOR ADMINISTRATIVE APPOINTMENT, Derby/Yorks/Lancs. To commence 1st August. Minimum salary £810. Offers to Box W.4114, "The Contract Journal."

REPRESENTATIVE SEEKS REMUNERATIVE POST with progressive company engaged in the manufacture, sale and hire of contractors' plant. Write Box W.4403, "The Contract Journal."

ADVERTISER (50), lifetime experience associated with the building, civil engineering and its allied industries, primarily concerned with buying and selling plant and equipment, established reputation and first-class contacts throughout U.K., is LOOKING FOR AN OPENING with small but progressive plant company, preferably in South of England, with view to building up business and ultimate directorship. Write Box W.4422, "The Contract Journal."

ESTABLISHED FREELANCE, seven years on territory, can UNDERTAKE ADDITIONAL REPRESENTATION OF REPUTABLE COMPANY in Southern and S.W. Counties. Builders, public works contractors, quarries and allied trades. Write Box W.4423, "The Contract Journal."

AGENT, qualified Civil Engineer, 20 years' experience, OPEN TO CONSIDER OFFERS. Write Box W.4411, "The Contract Journal."

YOUNG MAN (25), public school education, five years' experience in prestressed and reinforced concrete work, roads, sewers, able to draw, survey, set-out, manage site costing, measuring, certificates, labours, materials, REQUIRES REMUNERATIVE POSITION for 18 months, London area, with transport provided. Write Box W.4412, "The Contract Journal."

YOUNG go-ahead AGENT REQUIRES POST with civil engineering contractors in North East. Wide experience. Write Box W.4413, "The Contract Journal."

For Advertisements received too late for classification see page 1657

WORK REQUIRED

SITE CLEARANCE CO., LTD., specialists in removal of trees and roots. Explosion Engineers and Demolition Contractors. — Delph Gens, Quarry Lane, Appleton, Warrington. Telephone: Stockton Heath 309.

EXCAVATION SUB-CONTRACTS. Technical staff available to analyse programme and price complex projects. Particular attention given to finish and compaction. — D.B. TD18 and D14. Excavators, Loaders, Shovels and Lorries available for execution of work. — **DICK HAMPTON**, Broadview Farm, Blacknest, Aiton, Hants. Tel.: Bentley 3241.

SITE CLEARANCE, BULK EXCAVATION. — **JANES AND CO., LTD.**, Trading Estate, Slough. Telephone: Slough 20361—Ext. 4.

CONTROLLED EXPLOSIVES, LTD., specialise in the fragmentation of mass and reinforced concrete, inside or outside buildings. Demolition of bridges and chimneys, mass rock, trenching, sewage beds, engine beds, etc. and deep drilling for quarries. Particulars from 11 Church Street, Oldbury, Birmingham. Tel.: BR02dwell 3117, Blackheath 1906 & 1783.

SPECIALISED EXPLOSIVES SERVICES. U.K. and OVERSEAS MOBILE UNITS coverage on demolition, strong walls, concrete, dangerous structures, etc. — 124 Old Shoreham Road, Southwick, Sussex. Tel.: Southwick 3791 or Hove 48479.

IF GRADING, SEEDING, TURFING AND PLANTING form part of your CONTRACT, we will be pleased to quote you. — **HOLDROP**, 139 Belis Hill, Barnet. Telephone 9111.

BULK EARTHMOVING, direct contract or subcontract. Also **BULLDOZERS** and **SCRAPERS** for HIRE. — **FRANK R. WALPOLE, LTD.**, 126 Wing Road, Leighton Buzzard, Beds. Leighton Buzzard 3351.

UPROOTING. — TREES, STUMPS, HEDGES, etc. We have the most experience and all modern equipment. — **T. GRAVESON, LTD.**, Warton, Carnforth, Lancs. Telephone: Carnforth 381 and 382.

DEMOLITION, SITE EXCAVATIONS, PLANT HIRE. — Hardcore supplied. — **D. W. STONE, LTD.**, 2 St. Leonards Road, Hove. Tel.: Hove 46396.

WANTED, EXCAVATION, SITE CLEARANCE and DEMOLITION WORK. — **R. BARKER (PECKHAM), LTD.**, New Cross 3337.

SURVEYS AND SETTING OUT FOR ESTATES, MOTORWAYS ROADS AND CITY DEVELOPMENT AREAS THE SITE SURVEY COMPANY LONDON, S.E.3 TELEPHONE LEE Green 7444

WORK REQUIRED

BULK EXCAVATIONS AND SITE WORKS undertaken. Direct or on SUB-CONTRACT basis. Quotations given for large or small contracts anywhere.—S. AND L. BULL BROS., LTD., 126A High Street, Winchester. Telephone: Winchester 2264.

EARTHMOVING of any description undertaken by **SAM BOOTH, LTD.**, 75 Victoria Street, Telephone: Sullivan 3791 and Haywards Heath 1126.

BULK EXCAVATIONS, any quantity quoted for. Own plant and lorries. **COFF AND SON (EXCAVATIONS), LTD.**, Buckhurst Hill, Chesham, Bucks. Ascot 1026/7/8.

DROTT BTD6, fitted Winch and Priestman Cub Vs. HIRE or CONTRACT WORK.—**JAMES COOPER, LTD.**, 28 Kensington Church Street, London, W.8. Western 3412.

TREES, ROOTS or UNDERGROWTH feature in their economical disposal. **BAGSHOT SAWMILLS, LTD.**, 32 London Road, Camberley, Surrey. Telephone 14.

SOILING, SEEDING and TURFING. Site Clearance, Excavation and Levelling Work undertaken in any part of the U.K. at competitive prices.—**GILLIAM, Purley, UPLANDS 9222/6**

BULK EARTHMOVING, OVERBURDEN STRIPPING, EXCAVATIONS for roads, airfields, etc., with Euclid T524 Motorised Scrapers and Caterpillar D8 Tractors and Scrapers able to undertake work anywhere in the country. Also PLANT available for HIRE. **CONTRACTORS PLANT HIRING CO., LTD.**, Barkby Road, Leicester. Telephone: Leicester 6631—4 lines. Also Portland Chambers, 120/126 Portland Street, Manchester, 1. Telephone: Manchester Central 4822.

WANTED in N.W.: **EARTHMOVING** of any description for TD14 and TD18 Dozers and Scrapers. **JOHNSON, Cleveland, Waplers Moss Lane, Bursough Bridge, Ormskirk, Tel.: Bursough 3303** (all hours).

DEMOLITION WORK WANTED. Commission on successful introductions.—**Tel.: TUL 8444**.

ERECTION and DISMANTLING.—Structural Steelwork and all types of Prefabricated Components. Speedy and efficient service.—**ERECTORS, 80 Bulwell Crescent, Cheshunt, Herts. Waltham Cross 22564**.

SITE CLEARANCE, EXCAVATIONS, ROADS, SEWERS, etc.—**COFFEY AND SON, LTD.**, 147 Rushey Green, Catford, S.E.6. Hither Green 8667.

SPRAY PAINTING and all INDUSTRIAL DECORATING CONTRACTS WANTED.—**DECLASSED DECORATING CO., Scotland House, Bonsted, Arundel, Sussex.**

BUSINESS OPPORTUNITIES

LONDON ORGANISATION SEEKS ASSOCIATION with small regional companies or executives with management capabilities to complete formation of strong national group for the sale and hire of first-class earthmoving equipment.—Reply, in strictest confidence, to Box X.4380, "The Contract Journal."

PROFESSIONAL SERVICES

SETTING-OUT ENGINEERS and LAND SURVEYORS supplied with full equipment and transport to work singly or in teams in ANY PART OF THE WORLD. Motorways, multi-storey works, tunnels, route location, baselines, precise levels, machine setting. **PRECISE SURVEYS, LTD.**, Worcester 27584.

INTRODUCTIONS TO ARCHITECTS in connection with civil engineering work REQUIRED on a COMMISSION BASIS by small expanding company. Please reply, in confidence, to Box R.D.701, "The Contract Journal."

PROFESSIONAL PHOTOGRAPHY.—Commercial, Site Progress and Advertising Photography. Anywhere—Kent, East Sussex, South-East Surrey. Quality Service. Members of the Institute of British Photographers.—Write for full details to Box X.4282, "The Contract Journal."

CIVIL ENGINEER, B.Sc., widest possible contracting experience, OFFERS SERVICES on fee basis to contractors and others not desirous of employing full-time staff or temporarily overloaded. Preparation of tenders, monthly certificates, claims, surveys, etc. Own transport available.—**Write Box X.4268**, "The Contract Journal," or phone ADD. 3712.

ENGINEER has capacity to CARRY OUT SITE SURVEYS and INVESTIGATIONS, STRUCTURAL and ENGINEERING DESIGNS. Work carried out and supervised by competent and qualified staff. **Write Box X.4321**, "The Contract Journal."

REQUIRED, MAN capable of carrying out contracts, TO FORM A PARTNERSHIP. Small amount of capital required. There is a certain amount of plant and machinery. Offices situated in the Middlesex area. **Write Box X.4332**, "The Contract Journal."

TECHNICAL ESTIMATING SERVICES. The country's most accurate estimating service. Civil and building. Large or small contracts. Measurements. Certificates. Help and Advice. Full service.—Head Office: 66 Highbury, Newcastle upon Tyne (Tel. 814027), or Southern Office: 13 Potters Lane, New Barnet (Tel.: Barnet 7037).

BUILDERS' ESTIMATES prepared from plans and specifications in new and alteration work. Bills of quantities priced. Measuring. Final accounts. Bills of quantities, etc., photo-copied.—**C. D. HIGGINS**, 2 Park Crescent, Leeds, 8. Telephone 662117.

SALES BY TENDER ADMIRALTY.

SALE OF GOVERNMENT SURPLUS STORES.

TENDERS are invited for the PURCHASE and REMOVAL of SURPLUS MECHANICAL and ELECTRICAL EQUIPMENT at various stations in South Wales.

Brief description of items: Overhead Cranes, Electric Motors, Battery Charger, Diesel Engine and Generator, Compressor, etc. Some serviceable, others scrap.

Application for tender documents should be made to SUPERINTENDENT, Western Navy Works District, 7th Floor, Royal Liver Building, Liverpool, 3, not later than 30th JUNE, 1961.

COUNTY BOROUGH OF BOURNEMOUTH.

SALE OF SECOND-HAND PAPER BALERS AND SCRAP METAL PRESS.

OFFERS are invited for the FOLLOWING, as seen lying at GRAFTON ROAD DEPOT, Bournemouth, between 9 a.m. and 4 p.m., Monday to Friday. The successful offerer will be required to move free of cost to the Council within seven days:

Two Paper Balers (Hindle Son and Co., Blackburn). Approx. capacities 30in. x 20in. x 50in. high, 1-h.p. motors and starters 400-V 50-cycles 3-phase.

One Metal Press—No. 1406 (1948, Heenan and Froude, Worcester). Approx. capacity 20in. x 40in. x 16in. deep. No motor. Belt driven.

Offers for one or any of the above, in plain sealed envelopes endorsed "Offers for Balers," but bearing no mark or name indicating the sender, to reach BOROUGH ENGINEER, Town Hall, Bournemouth, by 8th JULY, 1961.

The Council does not bind itself to accept the highest or any offer.

BOROUGH OF CHORLEY.

FOR SALE, Rawlinson FOUR-SECTION TOWER. Extended height 25ft. Power elevation. Workshop body. New in August, 1955, and mounted on 1949 Karrier Bantam chassis.

May be inspected at Corporation Depot, Bengal Street, Chorley, between 9 a.m. and 4 p.m. No warranty or guarantee, express or implied, as to condition.

Offers, in plain sealed envelopes endorsed "Tender Tower Wagon," to reach TOWN CLERK, Town Hall, Chorley, by 22nd JULY, 1961.

THE MANCHESTER COLLEGE OF SCIENCE AND TECHNOLOGY.

FOR SALE, the FOLLOWING:—

One Bellitt and Morcom 500-kW Pass-out Turbo Geared Alternator, Machine No. 520, 1934, 6,000 r.p.m. Alternator by Lancashire Dynamo and Crypto, 400-V, 902-Amps, 625-kVA, 1,500 r.p.m., D.C. Exciter shunt wound cont. rating 44-V, 157-Amps, 6.9-kW, 1,500 r.p.m.

Associated Voltage Regulator, Synchronising Gear, etc.

One C.I. Standard Plate Tank (cooling water) by Mather and Platt, 1958, 4ft. long x 4ft. wide x 7ft. 6in. deep, capacity 750 gallons. Quantity of 15in. dia. x 8in. dia. C.I. Cooling Water Pipes.

One Auldis Patent Comb. Steam Pressure Red. Valve and Desuperheater Unit (1952), to reduce from 210lb. per sq. in. at 500°F. to 210lb. per sq. in. at 500°F. Capacity 20,000lb./hr. Water required 2,000lb./hr.

Tenders to be addressed to the Bursar, MANCHESTER COLLEGE OF SCIENCE AND TECHNOLOGY, Sackville Street, Manchester.

Further details and permission to view may be obtained on application to Chief Engineer and Works Superintendent.

DIVING

DIVERS and FROGMEN at immediate notice **DIVING SPECIALISTS, LTD.**, Dartford 24139. Night—Farnham 2452.

REED AND MALLIK, LTD., Civil Engineering Contractors (Diving Division), Milford Manor, Salisbury, Wiltshire. Telephone 5141.

OVERSEAS DIVERS, LTD.—Specialists in submarine civil engineering.—Bank Chambers, Baxtergate, Whitby, Yorks. Tel. 598. And at Southampton 56688.

DIVING WORK REQUIRED. All classes. Competent divers.—**A. J. PARSLÖE**, Diving Contractor, 14 Haig Avenue, Brighton. Tel.: Brighton 61228—all times.

AGENCIES

SPECIALISED PRECAST CONCRETE WORK REQUIRED in Midland and North West areas. Supplied ex works or delivered. Prompt attention. Please write to Box P.N.714, "The Contract Journal."

INVENTIONS

INDUSTRIAL ENGINEERS of REPUTE invite in strict confidence, DETAILS of INVENTIONS, with object of manufacturing and world distribution. Write Box K.L.517, "The Contract Journal."

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PROGRESSIVE London PLANT COMPANY wishes to PURCHASE SIMILAR ORGANISATION anywhere in England. Must have good plant and premises and competent management. **Write Box X.4182**, "The Contract Journal."

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FOR HIRE, all types of CARAVANS available. Usual amenities. From 40/- per week. Delivered anywhere.—**CATERHAM CARAVAN CENTRE, LTD.**, The A.22 Roundabout, Godstone Road, Whyteleafe, Surrey. Telephone: Upper Warrington 3590/3807.

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ACCOMMODATE YOUR EMPLOYEES in a 4-berth CARAVAN, fully equipped with heating, lighting, cooking and washing facilities. Hire rates from 50/- per week for four persons. Also MOBILE OFFICES. Delivered anywhere.—**NORTHERN CARAVAN DISTRIBUTORS**, Handforth, Ches. Tel.: Mercury 4255/6.

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SALES BY AUCTION

Re Douglas Equipment, Ltd. by Order of R. P. Matthews, F.C.A., Receiver and Manager.

FULLER HORSEY SONS AND CASSELL have been instructed to offer for SALE by

AUCTION in Lots at the BELLE VUE HOTEL, HIGH ST., CHELTENHAM, GLOS., On TUESDAY, 18th JULY, 1961, at 11 a.m. precisely.

MACHINE TOOLS, COMMERCIAL VEHICLES, SPARES and EQUIPMENT (located on the Premises in Kingsditch Lane, Tewkesbury Road, Cheltenham, Glos.), including

Kearns O.B. BORING MACHINE; Victoria U2 MILLING MACHINE; Mitchell LATHE; RADIAL and PILLAR DRILLING MACHINES; GRINDING and HACKSAWING MACHINES; PROFILE CUTTING and SHEET METAL MACHINES; 2 new Douglas DM44 DUMPTRUCKS; Commer and Austin 5-ton TRUCKS; Douglas 30cwt. TRUCK; New Commer T53 ENGINES; GEARBOXES; DIFFERENTIAL, FRONT and REAR AXLE ASSEMBLIES; PROPELLER and AXLE SHAFTS; CHASSIS FRAMES; BRAKES; WHEELS; WELDING TRANSFORMERS; Air Compressor; 4 Bravo Oil-fired SPACE HEATERS; Portable Electric Tools; Burroughs SENSIMATIC ACCOUNTING MACHINE; Adding Machines; Typewriters; OFFICE and CANTEN FURNITURE and EQUIPMENT; Steel Storage Racks; Steel Plates, Sections and Bars; Electrical Accessories, and numerous other effects.

Note.—The MODERN SINGLE-STORY FACTORY, consisting of about 50,000 sq. ft., on a site a little more than 3 acres, is for DISPOSAL.

Catalogues, when may be obtained of R. P. MATTHEWS, F.C.A., Messrs. ROOKE, LANE and CO., Chartered Accountants, 2 Norfolk Street, Strand, London, W.C.2, or of Messrs. FULLER, HORSEY, SONS and CASSELL, Industrial Auctioneers and Valuers, 10 Lloyds Avenue, London, E.C.3.

BROOKLYN ENGINEERING WORKS, CHANDLER'S FORD, HAMPSHIRE. Midway between Winchester and Southampton.

ENGINEERS' PLANT AND MACHINERY, VEHICLES and EQUIPMENT over 500 lots, including:

FODEN 8-WHEELER; MORRIS 30cwt. DIESEL TRUCK, 1959 FORD 50 ARTICULATED TRACTOR, Three 12-ton ARTICULATED TRAILERS; DIESEL TRACTORS, 10-ton VEHICLE HOIST; 5-ton MACHINERY TRUCK; COCHRAN OIL-FIRED BOILER, complete; Workshop Cranes, 34in. Motorised Shovel; Chain and Band Saws; Chain Blocks; Scw to 10 tons; Electric Motors; Generating Sets; LATHES; WINCHES, from 2 tons to 40 tons; ELECTRIC WELDERS; Milling Cutters; Vices; Slings; Hooks; Drills; Air Compressors; Steam Pumps; Thornycroft Engines; Fuel Tanks; Hydraulic Pumps; Bulkhead Watertight Doors; Shackles; Gate Valves; 1,000 Sets GALVANISED CORRUGATED IRON; Vehicle Spares, etc., which **SCAMMELL AND SMITH** will sell by AUCTION in lots, on the SITE at ABOVE, on WEDNESDAY, 12th JULY, 1961, at 10.30 a.m.

On view two days prior to the Sale. Free loading facilities. The Auction Mart, Eastleigh, Hants, Tel. 2201/3; and at Chandler's Ford, Hants.

LAND AND PROPERTY

NORTH ENGLAND.—Fully Equipped Freehold GENERAL WOODWORKING AND JOINERY FACTORY FOR SALE. Substantial Buildings with Offices. Floor space over 100,000 sq. ft. Ground area in all about 3 acres. Kitchens, Open and Covered Timber Storage, Good Labour Force. Details of existing contracts might be taken over.—Particulars of **HENRY BUTCHER AND CO.**, 73 Chancery Lane, London, W.C.2. Tel.: Holborn 8411.

HORTICULTURAL

TURFING — SEEDING — HEDGING. Quotations for all branches of landscape work, anywhere in the U.K. C.E. contracts a speciality. **WEBSTER BROS.** of Horsham, Leeds. Tel. 2364.

TURVES.—Machine-cut, 3ft. x 1ft., close mown, weed-treated, 60/- per 100. Keen trade rates. We would be pleased to quote for your levelling and laying.—**E. R. RANCE, LTD.**, 24 Sheepcot Lane, Watford. Telephone: Garston 2725.

TURFING — SEEDING — PLANTING. Competitive prices throughout U.K.—**KENTISH LANDSCAPES, LTD.**, Dillywood Lane, Higham, Rochester. Telephone: Strood 78028.

THE FRANT HORTICULTURAL AND FORESTRY CONTRACTING SERVICE (Tel.: Frant 206), Tunbridge Wells, Kent, undertake in the south of England all types of GRASS MOWING, ROTATORY HOING, SEEDING, TREE FELLING, etc.

BULK TURF and TOP-SOIL DELIVERIES 24-hour quotations given for London and Home Counties. P. TONLINSOHN, London Road, Blackless Lane, Keston, Kent. Telephone: Farnborough (Kent) 5100.

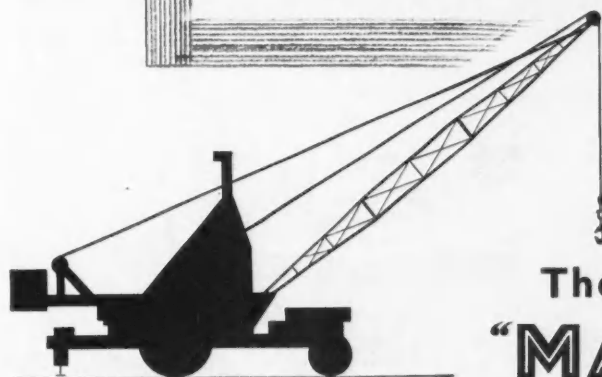
ROTARY CULTIVATION, GRADING, EARTH-MOVING, TURFING. Contract or daywork basis. **JAMES COOPER, LTD.**, 28 Kensington Church Street, London, W.8. Western 3412.

TURF.—48-hour delivery of bulk orders in Home Counties. Keen quotations for top-quality marsh turves, weed-treated and short mown.—**FAIRVIEW NURSERIES (GILLINGHAM), LTD.**, Wigmore, Gillingham, Kent. Telephone: Rainham 81244.

BUTTERS BROS.

announce a *CLEVER* new

MINI-MOBILE CRANE



The multi-purpose
"MANIPULT"



BUILDING



GRABBING

FOR BUILDING

The crane can handle loads up to 48 feet above ground level and can also have a fly jib fitted which will give increased radius.

FOR GRABBING

High efficiency through the patent device which gives considerable impulse to the grabbing action. A wide range of special grabs is available.

FOR TRENCHING

The crane can cut any drainage or foundation trenches to a depth of 15 feet—a range of buckets can be supplied.

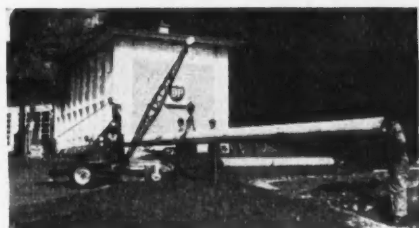
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Innumerable uses, and the various lengths of jibs which can be fitted increase the versatility. Maximum capacity 16 cwt.

AND MANY OTHER PURPOSES

Brief Specification :

Latticed steel jib 15ft. long. Air-cooled 6-h.p. engine. Travel speed $1\frac{1}{2}$ and $3\frac{1}{2}$ m.p.h. Main motions, hoisting, slewing and luffing. Brakes, Ferodo discs. 3-wheel chassis, two wheels independently operated by separate drives. Weight in working order $2\frac{1}{2}$ tons. Length without jib, 11ft. 6in., width 9ft., height without jib, 7ft. 6in. Operating speeds hoisting 145ft./min. on single rope, sluing 4.5 r.p.m., luffing 14 secs. max. to min. radius. $6\frac{1}{2}$ cwt. on single fall rope. Bucket handling, double fall rope $6\frac{1}{2}$ cwt. at 19ft. radius. Hook handling, treble fall rope 15cwt. at 9ft. 6in. radius. Self-propelled, towed or fixed types. Variou: extras available.



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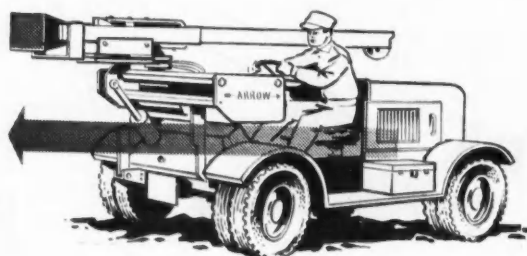
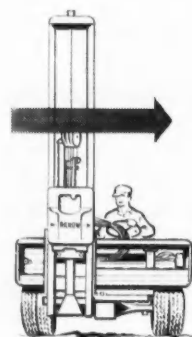
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The **ARROW** Side-Action Mobile Hydraulic Hammer

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Advertisements received too late for Classification

COUNTY. BOROUGH OF WALLASEY.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

TENDERS are invited for the SUPPLY of MATERIALS for use in connection with the WALLASEY VILLAGE WIDENING:—
Stone Kerb (approximately 425 lin. yd.).
Welded Fabric Reinforcement (approximately 3,570 sq. yd.).
Form of Tender, with Specifications and Conditions, may be obtained from the Borough Engineer and Surveyor, Town Hall, Wallasey, and must be returned in the special envelope provided to reach my office not later than 9 a.m. on MONDAY, 10th July, 1961.

A. G. HARRISON,
Town Clerk.

BOROUGH OF ILFORD.

IMPROVEMENT OF BILLET ROAD.

The Corporation invites TENDERS for the EXCAVATION for and the CONSTRUCTION of approximately 8,000 sq. yd. of 6in. Lean-mix Concrete sub-base and 8in. Reinforced Concrete Carriageway Slab, the provision of approximately 2,600 sq. yd. of Footway and approximately 2,000 lin. yd. of Concrete Kerb, together with ancillary Drainage Works.
Conditions of Contract and Drawings may be inspected upon application to the Borough Engineer, Town Hall, Ilford, from whom the Special Conditions, Specification, Bills of Materials and Form of Tender may be obtained on payment of a deposit of Two Guineas, which is returnable upon receipt of a bona-fide Tender not subsequently withdrawn.
Tenders, in plain sealed envelopes bearing no name or mark indicating the tenderer and endorsed "Tender for the Improvement of Billet Road," must be delivered to the TOWN CLERK, Town Hall, Ilford, not later than 4 p.m. on the 25th JULY, 1961.
The Corporation does not bind itself to accept the lowest or any Tender.

CITY OF ST. ALBANS.

HARPENDEN ROAD FOUL SEWER.

TENDERS are invited for the CONSTRUCTION of HARPENDEN ROAD FOUL SEWER, comprising approximately 860 lin. yd. of 9in. diameter Stoneware Pipe and 13 Manholes.
Tender documents may be obtained on application to the City Engineer, 16 St. Peter's Street, St. Albans, where the Drawings may be inspected during normal office hours.
Tenders are to be delivered to the undersigned in the envelope provided not later than Noon on TUESDAY, 11th July, 1961.
The Council does not bind itself to accept the lowest or any Tender.

(Signed) B. V. ENTWISTLE,
Town Clerk.

16 St. Peter's Street,
St. Albans,
Herts.

CITY OF LEICESTER.

COMPLETION WORKS—122 DWELLINGS, NETHER HALL ESTATE.

TENDERS are invited from experienced contractors for the CONSTRUCTION of FOOTWAYS, KERBING, VERGES, FOOTBRIDGES, RETAINING WALLS, and other ancillary Works on the NETHER HALL HOUSING ESTATE. Approximate area of Footway, 3,200 sq. yd.
Tender documents obtainable from the undersigned on payment of £1 1s., refundable on receipt of a bona-fide Tender.
Tenders must be returned to the undersigned by Noon on TUESDAY, 11th July, 1961.

JOHN L. BECKETT, M.C.E.,
City Surveyor.

Town Hall,
Leicester.

RUISLIP - NORTHWOOD URBAN DISTRICT COUNCIL.

PROPOSED COVERED SWIMMING BATHS.

Contractors desiring to TENDER for THIS PROJECT are invited to submit their names to the undersigned not later than FRIDAY, 7th July 1961, accompanied by brief details of similar or other substantial works previously undertaken, and names of Architects from whom reference may be obtained.

This Scheme provides for a 110ft. x 45ft. Pool, a Small Teaching Pool, an Administration Block, Public Gallery and Cafeteria, Access Roads and Car Park. From such applications, a selected list of tenderers will be made by the Council.

Completed Tenders will be required by 4th SEPTEMBER, 1961, and it is anticipated that the Contract will be let and work will commence by mid-October, 1961.

EDWARD S. SAYWELL,
Clerk of the Council.

Council Offices,
Northwood, Middx.
26th June, 1961.

WOKINGHAM RURAL DISTRICT COUNCIL.

CHAIN LINK FENCING.

TENDERS are invited for the SUPPLY and ERECTION of approx. 450 lin. yd. CHAIN LINK FENCING and Access Gates at the COUNCIL'S DEPOT at WATMORE LANE, Winkersley.
Details may be obtained from the Chief Engineer, at the undermentioned address.
Tenders, in plain sealed envelopes endorsed "Tender for Fencing," should be received by the undersigned not later than 13th JULY, 1961.
The Council does not bind itself to accept the lowest or any Tender.

GEOFFREY HEATH,
Clerk of the Council.

Council Offices,
Shute End,
Wokingham, Berks.

ROLLER DRIVER REQUIRED. Living van provided. Apply C. J. PEARCE AND CO., LTD., Public Works Contractors, Southall, Dawley, Salop.

CONCRETE INSPECTORS REQUIRED. Opportunity for two first-class men to join a progressive organisation. These positions would be suitable, particularly, for carpenter-trained or otherwise experienced men who are anxious to settle in a pleasant country district.—Please forward, in confidence, full particulars of training, experience, and present-day salary, to the Chief Technical Inspector, DOW MAC (PRODUCTS), LTD., Tallington, Stamford.

HERTFORDSHIRE COUNTY COUNCIL.

TENDERS are invited for the FOLLOWING ROAD IMPROVEMENT CONTRACTS:—

Hempstead Lane, Bovington (B.450S), Stage III. The Works, which consist of the Widening and Improvement of 1,160 yd. of Hempstead Lane, between Bushfield Road and Bury Rise, comprise Site Clearance, 19,000 cu. yd. Excavation, 6,800 sq. yd. Lean-mix Concrete Haunch, 1,700 tons Bitumen Gravel Macadam, 2,500 lin. yd. Concrete Kerbing, 2,800 lin. yd. Surface Water Drains, Footways, Fencing and other Accommodation Works.

Tender documents may be obtained from, and Drawings inspected (by previous appointment), at the office of the County Surveyor, County Hall, Hertford, on or after 3rd July, 1961.

Tenders are to be returned to the CLERK OF THE COUNTY COUNCIL by 10 a.m. on the 26th JULY, 1961.

The County Council are not bound to accept the lowest or any Tender.

County Hall,
Hertford.

BOROUGH OF HESTON & ISLEWORTH.

WHITTON DENE/HALL ROAD HOUSING ESTATE—ROADS AND SEWERS.

The Borough Council invite TENDERS for SITE GRADING WORKS and the CONSTRUCTION of ROADS AND SEWERS on the ABOVE-MENTIONED HOUSING ESTATE. Roads will be of Hardcore and Tarmacadam Construction, with Glazed Stoneware Pipe Sewers of 12in.-6in. diameter.

On deposit of £2 2s. (returnable if a bona-fide Tender is received and not subsequently withdrawn), the Tender documents may be obtained and the condition of Tender and Drawings seen at the Borough Engineer's Office, 88 Lampton Road, Hounslow, on or after 4th July, 1961.

Tenders, in sealed envelopes endorsed "Tender—Whitton Dene/Hall Road Housing Estate," but bearing no indication of the sender, must be delivered to the undersigned not later than 10 a.m. on 18th JULY, 1961.

The Council are not bound to accept any Tender.

D. MATHESON,
Town Clerk.

Town Hall,
Hounslow,
Middlesex.

BOROUGH OF BRIGHOUSE.

RETREAD SURFACING, 1961-62.

TENDERS are invited for the RESURFACING by RETREAD METHOD of VARIOUS ROADS within the Borough, comprising a total area of approximately 8,000 sq. yd.

Conditions of Tender, Specification, Bills of Materials and Form of Tender may be obtained from the Borough Engineer, Commercial Street, Brighouse, where the General Conditions of Contract may be inspected on payment of £1, which is returnable on receipt of a bona-fide Tender.

Tenders must reach the undersigned not later than 1.15th JULY, 1961, in a plain sealed envelope endorsed "Retread Surfacing, 1961-62."

JOHN R. LIDDLE,
Town Clerk.

Town Hall,
Brighouse,
26th June, 1961.

BOROUGH OF MALDON.

PROVISION OF CARRIAGEWAYS AND FOOTPATHS, OAK ROAD AND WOOD ROAD, HEYBRIDGE: PROVISION OF FOOTPATHS, HEYBRIDGE HOUSING SITE.

TENDERS are invited for the CONSTRUCTION of approx. 1,690 sq. yd. of LEAN CONCRETE and BITUMINOUS CONCRETE CARRIAGEWAYS, and 1,800 sq. yd. of 2in. P.C. Concrete Flagging to Footpaths.

Forms of Tender, Specifications, etc., obtainable from the Borough Engineer, Market Hill, Maldon, on receipt of a deposit of £2 2s. returnable on receipt of a bona-fide Tender not subsequently withdrawn, or on return of documents. Drawings may be inspected at the Borough Engineer's Office during normal office hours.

Tenders, in plain sealed envelopes marked "Carriageways and Footpaths," to reach the undersigned by not later than First Post on 17th JULY, 1961.

The Council will not be bound to accept the lowest or any Tender.

K. C. ROBERTSON,
Town Clerk.

Municipal Offices,
Market Hill,
Maldon, Essex.

BOROUGH OF MALDEN AND COOMBE.

PURCHASE OF HYDRAULIC LOADING SHOVEL.

TENDERS are invited for the PURCHASE of a Diesel-engined ½ yd. capacity HYDRAULIC LOADING SHOVEL.

Form of Tender and Specification on application to JOHN APSE, A.M.I.C.E., Borough Engineer and Surveyor, Municipal Offices, New Malden.

Completed Tenders, in the envelope provided, to be received not later than 5 p.m., 14th JULY, 1961.

HAROLD E. BARRETT,
Town Clerk.

Municipal Offices,
New Malden,
Surrey.

BOROUGH OF LUDLOW.

FOR SALE, ONE SECOND-HAND TANGYE 15-h.p. HORIZONTAL DIESEL ENGINE, in working order.

Further particulars from BOROUGH SURVEYOR, Municipal Offices, Dinham, Ludlow.

GENERAL FOREMEN REQUIRED. Large contracts, Liverpool district. State age, qualifications, experience. Top salaries paid to suitable men.—Apply to SIR ROBERT LLOYD AND CO., LTD., Port Causeway, Bromborough, Cheshire.

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NORTHAMPTONSHIRE COUNTY COUNCIL.

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TENDERS are invited for the RECONSTRUCTION of BUGBROOKE CANAL BRIDGE, on the Northampton-Banbury Road, B.452S, approx. 6 miles south-west of Northampton.

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Tender documents may be obtained from the County Surveyor, County Offices, Guildhall Road, Northampton, on deposit of a sum of £2 which will be refunded on receipt of a bona-fide Tender and the return of all documents. The detailed drawings may be examined at the County Surveyor's Office during normal office hours.

Tenders, in plain sealed envelopes endorsed "Tender for Bugbrooke Canal Bridge," must be returned to the undersigned not later than THURSDAY, 27th July, 1961.

J. ALAN TURNER,
Clerk of the County Council.

County Hall,
Northampton.

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SUPPLY OF LOW PRESSURE, HAND-FIRED CENTRAL HEATING BOILERS FOR SCHOOLS.

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H. A. CLIDERO,
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Form of Tender and Bill of Materials for the whole of the works in respect of (a), Form of Tender, Drawings and Specification for the whole of the works in respect of (b), may be obtained from the Engineer and Surveyor and Planning Officer, Council Offices, Esher, on payment of a deposit of two Guineas for each Contract, which will be refunded on receipt of a bona-fide Tender, together with the return of all documents in good condition.

Tenders, on the prescribed form, enclosed in the envelope provided endorsed "Contract No.," and bearing no name or mark indicating the sender, must be addressed to and received by the undersigned not later than 5 p.m. on MONDAY, 24th JULY, 1961.

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FREDERICK EDWARDS,
Clerk of the Council.

Council Offices,
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Surrey.

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THE BRITISH CONSTRUCTIONAL ENGINEER AND THE CONTRACTOR

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LAWRENCE MCCARTHY

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THIS NEEDED SAYING

THE present economic situation of the country is far from satisfactory and last week came a warning from the Chancellor of the Exchequer that Britain must cut her overseas military expenditure, restrain public sector spending at home and stop the wage spiral caused by leapfrogging pay claims. He said investment in the public sector was going faster than the Government expected. It was going beyond what the economy could sustain and beyond what the Government could afford.

In the light of this statement, we may well see the familiar retrenchment exercise in the capital programmes of the Government and the nationalised industries, and the brake applied to construction work.

Some may well feel that a slight touch of the brake would not be a bad thing for construction for there is no denying that certain sectors of the industry are badly overloaded. In many instances too much work has been taken on at too low a price and not a few firms are now retiring to lick their wounds. A steady hand is in fact needed on the tiller.

Fortunately, leadership has been forthcoming from the President of the National Federation of Building Trades Employers. Speaking at the recent half-yearly meeting of the South Wales and Monmouthshire Federation he pointed out that although there was a continuing heavy demand for its services the building industry could not expect to be unaffected by the rest of the economy. At the same time, nobody could accuse the industry of not increasing its production—it had succeeded where other industries had failed, although of late builders might be accused of increasing their prices. It was even more vital now that the trend of increasing production in building should continue. This would not be easy to achieve because of labour shortages. These shortages were a challenge to building contractors' ingenuity and skill in management. But he warned of the temptation to take on more building work than could be competently handled with the resources of men, money and machines available. Some firms he regretted were making this mistake and the results could not be beneficial either to the firms concerned, their clients or the industry as a whole.

Commenting on the economic situation, the President said no matter what the Bank rate might be, no matter what economic regulator was used, the building industry should and must have confidence in its own future. It was clear that there was plenty of work for all firms for a long time ahead. There was no need to scramble like squirrels to store nuts for the winter. The industry could not isolate itself from the rest of the economy and it must be ready for the task of lending a hand to any storm which might blow.

It could best do this by going all out to surpass its target of a six per cent. increase in production this year. Whatever the dark clouds on the horizon, this was not the time to relax in recruitment and training of apprentices and students or in investment in mechanical plant or management. To think that it was would be foolish. Such a reaction would harm the industry and, indeed, hinder rather than help the national economy for years to come.

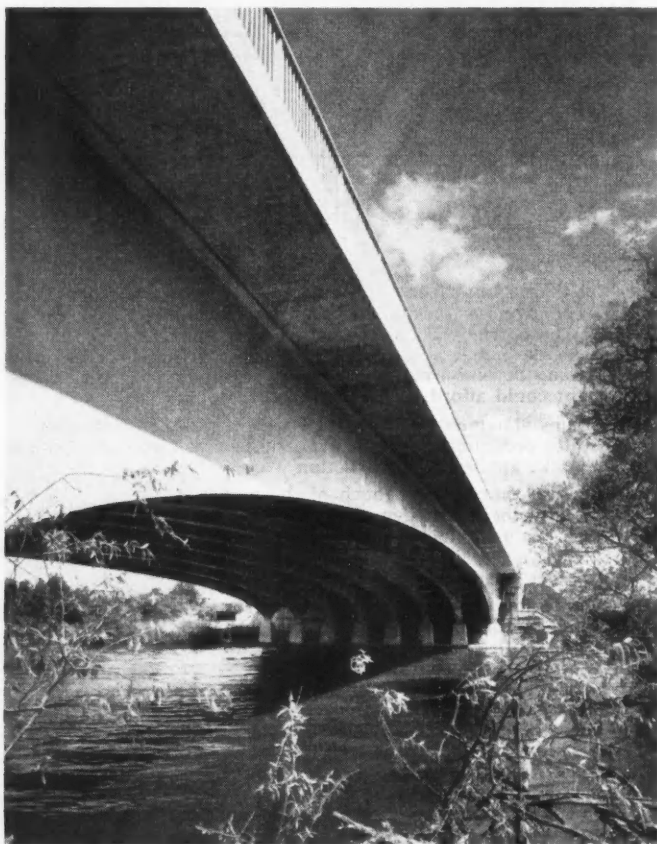
What the President of the National Federation has said badly needed saying. May his words not fall on deaf ears.

Now for 1963

BY the time the gates at Crystal Palace closed finally on Saturday evening it had been agreed almost unanimously by the exhibitors that the first International Construction Equipment Exhibition had been a considerable success. Certainly it was the finest exhibition of its kind ever held in this country.

Attendance figures, at first disappointing, picked up considerably during the latter half of the show. Of prime importance was the number of customers from overseas for the construction equipment industry cannot exist on home sales alone. Results of exhibitions are often not immediately apparent but many firms booked substantial orders on the spot.

What of the future? The need for such an exhibition has been proved conclusively and the promoters and organisers should start making plans now for the next show in 1963, for there are a number of matters which will need attention. Crystal Palace is an excellent site, although probably already too small, but amenities need improving. Had the weather been less kind the uneven and shabby roads and footways would have been in a fine mess and sanitary arrangements left much to be desired. There were a number of teething troubles which the Exhibitors' Advisory Committee will no doubt bring to the attention of the organisers and of course there was the catering! Is exhibition catering ever satisfactory? Nevertheless, it was a fine exhibition and the promoters and organisers deserve congratulations. Now on with the planning for the next show!



The new Thames bridge

MAIDENHEAD BY-PASS NOW OPEN TO TRAFFIC

**Six-mile Link in
London-South Wales
Motorway**



General view looking west showing bridge in foreground

THE Maidenhead By-pass, construction of which was fully described in *The Contract Journal* of September 1, 1960, was opened to traffic this week. Built at a cost of £2½ million, it comprises six miles of dual two-lane carriageway passing to the south of the town and providing the first link of the proposed London-South Wales Motorway.

The next link is the 5½-mile Slough By-pass, on which work has just started, and by 1964 it is planned to have 24 miles of the motorway completed — from Chiswick Flyover to Maidenhead Thicket.

Construction of the Maidenhead By-pass was divided into two contracts—four miles in Berkshire and two miles in Buckinghamshire—and was carried out on behalf of the Ministry of Transport by the county councils. John Laing and Sons, Ltd., were the contractors for the Berkshire section and Higgs and Hill, Ltd., for Buckinghamshire. The two sections meet at the River Thames, where a new welded bridge has been constructed by Horseley Bridge and Thomas Piggott, Ltd. On the road bridges all prestressed and post-tensioned beams were supplied by Anglican Building Products, Ltd.

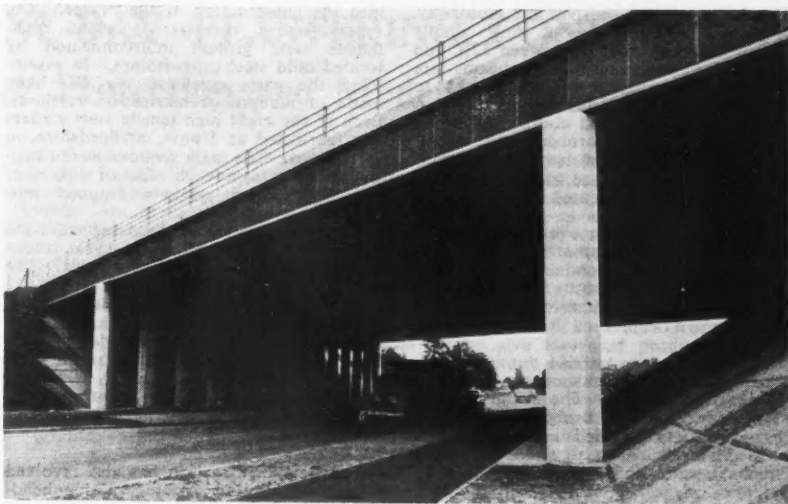
The by-pass is connected with the A.4 by a short length of motorway known as the Huntercombe Spur. This spur road leaves A.4 about 2½ miles west of Slough and runs due south to the flyover junction with Slough By-pass. From this point the main motorway runs westwards for nearly two miles to cross the Thames just below Bray. It then curves around the southern outskirts of Maidenhead to rejoin the A.4 near the wooded uplands of Maidenhead Thicket.

The dual 24ft. carriageways are provided throughout, separated by a 13ft. grass verge and flanked by hard shoulders where vehicles can stop in emergencies. The hard shoulders vary from 9ft. to 10ft. in width but are omitted on the Thames bridge. The carriageways are of flexible construction surfaced with asphalt.

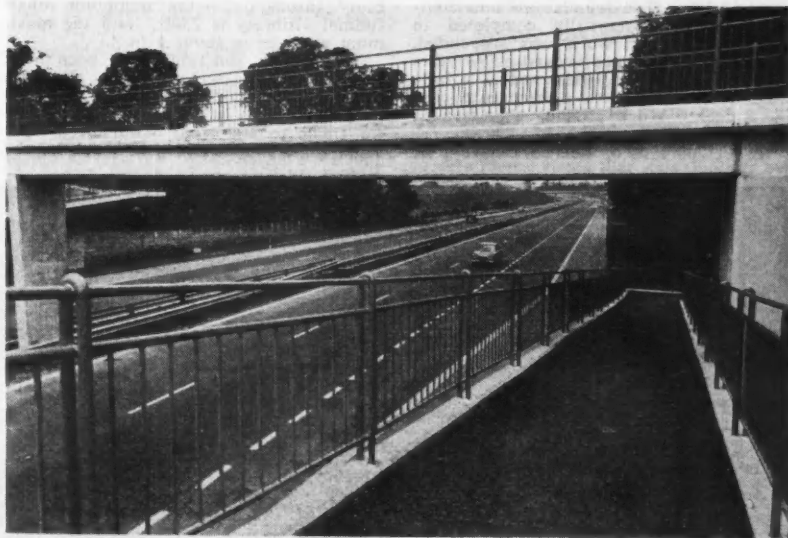
Buckinghamshire Section

The greater part of the Bucks. section is built on embankment over low-lying ground and a high quality granular filling was used, obtained from two pits opened for the purpose near Taplow Railway Station.

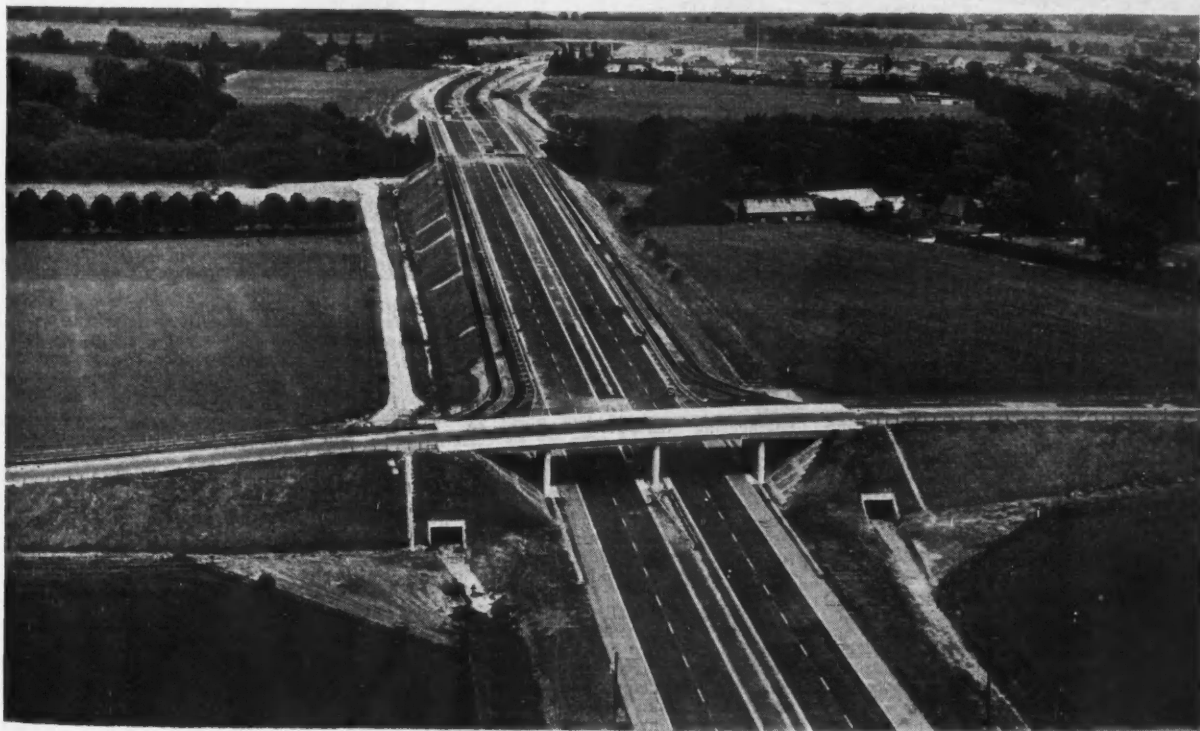
There are three major bridges on this section, carrying the Huntercombe Spur, the Huntercombe Lane diversion and the



Windsor Road bridge



Kimbers Lane bridge



General view looking east with Thames bridge in the centre

Marsh Lane diversion over the motorway. All these bridges are of four simply supported spans varying between 32ft. and 52ft. The prestressed deck beams are supported on rubber bearing blocks to allow for movement due to variations in temperature. Piers and abutment capping beams are cast with Cornish granite aggregate and white cement treated to expose the aggregate. The face of the cantilever coping has been treated in a similar manner.

There is a footbridge over Huntercombe Spur with a triple ramp structure on each side about 50ft. long and approach ramps from 70ft. to 90ft. long. As in the road overbridges, Cornish granite aggregate and white cement were used in the piers and cantilevers.

The contract was carried out under the supervision of the Bucks. county surveyor, Mr. E. H. Frankland. The bridge designs were produced by the Bridges Section staff of the County Council in collaboration with Maxwell Ayrton and Courtenay Theobald, consulting architects.

Thames Bridge

The new Thames bridge has a graceful main span of 270ft. and two side spans, each of 38ft. The foundations and abutments were substantially completed in 1940, after which work was suspended. When the scheme was revived a few years ago, the bridge was redesigned as a fully welded structure with a composite concrete deck. Work at site recommenced in January, 1960.

About 700 tons of steelwork have gone

into the construction of the bridge. The superstructure consists of eight high-tensile steel girders interconnected by welded mild steel cross-frames. In assembling the parts extensive use has been made of modern prefabrication methods. Each of the eight high-tensile steel girders was fabricated at Tipton, Staffordshire, in 11 sections. The main sections were cantilevered out from each side of the river and the closing sections dropped into position and welded.

In addition to the dual carriageways the bridge carries two 6ft. wide cycle tracks and two footpaths each 5ft. 6in. wide. The cycle tracks are separated from the carriageway by 6ft. wide verges with unclimbable fencing and guard rails. Substantial steel parapets are provided on each side. The overall width of the bridge deck is 100ft.

The consulting engineers for the bridge were Freeman, Fox and Partners.

Berkshire Section

The Berkshire section has also involved a short diversion of the Maidenhead-Henley trunk road at the western end and the realigning and regrading of over five miles of side roads. There is good visibility throughout—the minimum longitudinal visibility is 750ft.—and the maximum gradient is about 1 in 43.

Two flyover junctions have been built on the Berkshire section, one at the junction with the Windsor Road and the other near Cox Green at Shoppenhangers Road for traffic to and from Maidenhead. All other roads are carried over or under the

motorway. The needs of pedestrians and cyclists are met by a footbridge at Kimbers Lane and a subway at Cox Green. Ramps are provided to the footbridge, instead of stairs, to assist cyclists or people with prams.

All the road bridges are of concrete construction and, with the exception of the footbridge, are faced with precast exposed aggregate facing panels using Mountsorrel granite aggregate. Movements due to temperature are allowed for by a combination of flexible columns and rubber bearings at the abutments.

The road bridges were designed by Scott and Wilson, Kirkpatrick and Partners, who also supervised their construction, with Ansell and Bailey as consulting architects. Where the motorway rejoins A.4 at Maidenhead Thicket a roundabout with a 240ft. diameter island has been constructed.

The motorway is carried over the main Western Region railway by a three-span girder bridge, the centre span being 73ft. 10in. All steelwork had been erected before the war and to provide the necessary headroom of 16ft. for future electrification it was necessary to raise the bridge 16in. This was done one Sunday morning in July, 1959. Hydraulic jacks were provided at all girder bearings and the whole structure was raised in stages of approximately 2in.

This bridge and various other structures started before the war were completed to designs prepared by the Berkshire county surveyor, Mr. K. P. Brow, who also designed the roadworks.



Flyover junction near Huntercombe Manor showing present end of motorway along the spur in centre

B.R. RESEARCH BUILDINGS TO COST £11M.

NEW engineering laboratories, which are to be built at Derby by British Railways at a cost of about £11m., will be equipped with the most advanced apparatus in Britain for testing carriage and wagon underframes, bridge sections, reinforced concrete units, and other heavy railway equipment. Work is expected to begin in August and will take about two years to complete.

The buildings, which have been designed by the British Transport Commission's architect, Mr. F. F. C. Curtis, Dr. Ing., A.R.I.B.A., will be situated in London Road immediately opposite the present

engineering laboratories built by the L.M.S. Company in 1931.

The main building in the group is a large test hall. This is linked by the stores to three wings of single-storey laboratories which, together with a five-storey building containing scientists' study rooms, library and administrative offices, enclose a paved and landscaped quadrangle.

The large test hall will include a heavy dynamic fatigue-testing installation for experiments with bridge girders, underframes and concrete units, a static 250-ton compression machine for testing carriage underframes, and vehicle inspection pits. It will also contain a special area where

tests on small components can be carried out, a stores room and a workshop.

On the civil engineering side of the Research Department the main effort is being directed to overcoming track problems, such as the wear and failure of rails, and to anticipating the future effects of new forms of motive power, heavier freight vehicles, and higher speeds. Changes in the permanent way can only take effect over a period of years and research must start well in advance of future requirements. In the same way many existing bridges were designed for very different conditions from those they are now having to meet, or may have to meet in the future, and considerable research is also being directed to this problem.

N.F.P.C. HOLD ONE-DAY PLASTERING CONFERENCE

Mechanisation, Fire Protection and Modern Developments

DEVELOPMENTS in plastering was the theme of a one-day conference recently held in London by the National Federation of Plastering Contractors.

Under the chairmanship of the Federation's president, Mr. G. J. Foreman, the conference heard and discussed four major Papers on mechanisation, fire protection and plaster in modern building. Extracts from these Papers and the discussions which followed are given below.

MECHANISATION IN A CRAFT INDUSTRY

by Mr. J. S. Cook, past president, N.F.P.C.

PLASTERING has been, and still is, an integral part of the majority of new buildings. Used intelligently and correctly, no other medium can give such satisfactory and utilitarian finish at comparable cost. This should in no way be taken as a condemnation of other methods of finishing; it is rather more to the point that the other methods have evolved to combat a shortage of skilled plasterers, and the impact they have made is comparatively small, as yet, by comparison with the volume of plastering work still being done today. But the danger exists that they may grow, if the Industry is unable to cope with what it is asked to do. That this danger exists today I think all my audience will agree.

Here, then, is surely one reason why we should consider mechanisation. I do not pretend that it will solve our labour problems; our inability to recruit sufficient apprentices will not be overcome by introducing a machine, and the apprentice must still be taught the traditional methods. But the hope is for an increased output and an alleviation for the operative of a good deal of the hard work that plastering entails.

I would like to draw your attention to the report of our Federation team that visited the United States. You may recall, from the observations they made, that machine plastering has made a great impact upon the plastering industry there, and that they have no doubt about the important contribution it makes to output.

Comparisons Difficult to Make

I appreciate that it is difficult to make comparisons between conditions in the United States and this country, but the essentials are the same. The problems cannot be solved by a few large individual contractors. The Industry as a whole—designers, manufacturers and contractors—must make a concerted effort to meet prevailing conditions. It is very easy to become complacent and parochial in one's attitude to business, and to think that because the order book is full all is well. But we should remember that if we cannot give the service that is expected of us in one area, it will not be long before architects and clients are thinking of alternatives to plastering; the repercussions from this can quickly affect the whole Industry throughout the country. We certainly need the co-operation of all branches of the plastering industry. This I am sure we shall obtain; many of them, I know, have given much thought and consideration to the matter and it is hoped that we shall see advances in the suitability of plaster mixes for machine application.

My firm has been operating a Tri-Coater plastering machine for approximately 12 months. I would first like to say that the machine has been trouble-free and that not once, whilst operating on the site, have we had any mechanical breakdowns or, indeed, any stoppage. The mixer supplied with the machine is a first-class piece of engineering ideally suitable for its purpose, and it seems strange that, to my knowledge, a comparable mixer is not manufactured in this country. There would appear to be a market for one.

Our experience has shown that it is advisable initially to train a small crew off the site. There are inevitable teething troubles and these are best overcome in the experimental stage.

Chief Advantages

The chief advantages of the machine would appear to be:—

- (a) High coverage—given a clear run 300 to 500 yd. a day can be floated with a gang of six;
- (b) good mechanical adhesion—this appears to be better than trowel-applied backing coats; and
- (c) the material can be pumped and applied several floors from the ground, thus saving hoisting, etc., and double handling of materials.

The disadvantages we have experienced are as follows:—

- (a) A good deal of masking is necessary to prevent spraying of windows, pipes, etc.;
- (b) difficulty has been experienced in getting a true and even surface to the undercoat, because the gypsum plasters have to be retarded and it is necessary to build up the thickness in stages;
- (c) in very few instances have we really had sufficient areas available from the contractors to give an even flow of work;
- (d) our greatest difficulty has been in the education of the operatives to accept the use of machine plastering.

At this stage it is difficult to be dogmatic about comparisons of cost between machine and hand plastering. The saving at the moment appears to be marginal. On the other hand, as I have previously stated, we have not yet had the opportunity of really carrying out a contract under good conditions.

To sum up, I think it is true to say that machine plastering in this country is still in an experimental stage. A good deal of work is needed both on practical experience in handling the machine and the finding of a really suitable plaster or mix for use with the machine. But I think the time has come when every plastering contractor should seriously consider its implications and, if possible, try out a machine himself. Only in this way can we speed up a process which appears to have every possibility of becoming a widely used and beneficial technique in the plastering industry.

Many of my colleagues may well disagree with some of what I have said; but I think that it is indisputable that the plastering industry is approaching a crossroads, if it has not already reached it. Its future course and prosperity depend on our ability to overcome the difficulties that confront us, and to do this we have got to examine closely every new technique and aid, however impossible they may appear to be at first sight.

Discussion

In the discussion which followed Mr. Cook's Paper comments were made on the necessity to educate architects and builders to see the need for mechanical plastering, and it was asked how mechanical plastering was to be got into the building industry. It was also urged that the architectural profession should bring the plasterer into discussion at specification stage, when the advantages of mechanical plastering could be reaped.

Another speaker from the body of the hall suggested that the architect and building contractor should co-operate by leaving plastering work until the end of the job, giving the plasterer a clear run and a specified time for getting in and out.

One of the several architects present pointed out that the architect has hardly anything to do with the means used for

plastering. The answer might lie, he suggested, in making the plastering sub-contractor a nominated sub-contractor.

A summing-up was carried out by Mr. P. E. Trench, director, National Federation of Building Trades Employers, who expressed the opinion that plastering had an excellent future before it. The reason for mechanisation, he said, was not necessarily because of the shortage of craftsmen, but to give increased production.

He gave a number of recommendations for the success of mechanisation: the help of the Building Research Station should be enlisted in connection with investigation of mixing, handling and transporting, application, and finishing; failures of mechanisation as well as successes should be made known; and leaflets should be produced aimed at the building contractor and the architect.

FIRE PROTECTION BY PLASTER

by Mr. Alexander R. Mackay,

A.M.I.Struct.E. (Frederick S. Snow and Partners)

IT would be fair to claim that plaster is one of the traditional fire protective materials, although it is only in comparatively recent times that its value has been quantified by means of standard fire tests.

Although the various building by-laws in this country almost invariably include in a schedule of fire protection materials the various thicknesses of plaster acceptable to the local authority as a means of imparting the requisite degree of protection, the technique does not appear to be fashionable.

Yet if one considers the commonest alternative to plaster for the fire protection of structural steelwork, namely, a reinforced concrete casing, then the avoidance of a plaster casing is almost inconceivable. We are all familiar with a modern multi-storey steel-framed building which usually supports some form of hollow reinforced concrete floor, the floor beams and columns being encased with solid reinforced concrete. How many of us have paused to consider what those concrete casings entail? How many of us know that between one quarter and one third of all the concrete in the superstructure has to be fed, bit by bit, into the formwork to form these casings? A concrete casing involves three separate trades and five different building materials. Then, ironically enough, in the majority of buildings these casings are plastered as the basis of the decoration of the building, and frequently the plaster alone would impart the necessary fire protection to the steelwork.

The plaster casing requires three building materials and the services of a metal lather and a plasterer.

The concrete casing, owing to its place in the sequence of building operations, is invariably formed in the open air, frequently in a relatively inaccessible position and always at the mercy of the weather. The plaster casing, on the other hand, is formed when the remainder of the plastering is carried out inside a weathertight building.

If someone were to set out to make the fire protection of structural steelwork as awkward, as costly and as tedious as possible, they would find it difficult to improve upon a concrete casing.

If that be accepted, we might be excused for thinking that cost had something to do with it; that despite all its handicaps the concrete casing is cheaper than plaster or that its presence contributes something to the strength of the steelwork.

Not Cheaper

The concrete casing is certainly not cheaper than a plaster casing but it does help to relieve steel columns of some of

the direct load that they have to carry. The effect of this is that the finished concrete-cased column is smaller than a plaster-cased column would be and there is a reduction in the weight of steel in the column itself. The combination of these two makes a presentable case for the retention of a concrete casing on stanchions.

However, stanchions represent only 30 per cent. of all the steelwork in the type of building we have in mind. What about the other 70 per cent., the floor beams?

To start with, the concrete casing imparts no extra strength to floor beams; indeed, the self-weight of the casing must be deducted from the payload that the steel beam would otherwise carry. If concrete casings are omitted in favour of plaster the total reduction of weight of building permits savings of 5 per cent. to 10 per cent. in the cost of foundations.

The first cost of plaster casings is lower than concrete casings. As an example, a typical secondary beam casing in an office building would cost about 30 per cent. less if it were formed with metal lath and plaster. To make this comparison the cost of plastering the concrete is included, because the all-plaster casing is ready for decoration. I have found instances where the comparison was less favourable simply because the surveyor or estimator had overlooked this fact. The alternative casings must be compared on the basis that they are complete, ready for decoration.

It was necessary to dwell on the shortcomings of a concrete casing in order to see what advantage the plaster casing had to offer. Now let us turn to a plaster casing in a little more detail. What does it involve?

Reduced to its simplest terms, the casing consists of a metal lath box fixed around the exposed portion of the steel beam to form a rectangular profile; and applying to the faces of this metal lath the requisite thickness of plaster to impart a given degree of fire protection.

I do not propose to burden you with figures, the thickness of plaster for required various periods of fire protection are published and readily available. As an example of what can be achieved, I would mention that two-hour fire protection is derived from 2 in. cover of concrete on the edges and flanges of a beam, whereas the same degree of protection can be obtained with only 1 in. vermiculite/gypsum plaster on metal lath.

It is of the utmost importance that the prescribed thickness of plaster is applied and in my view this is more easily assured when the metal lathing incorporates some kind of corner bead designed and fixed so that the plasterer has a ready-made guide to the finished face of his work. It is equally important to ensure that the vermiculite and gypsum are mixed in exactly the right proportions.

Standard fire tests have been carried out on steel members fire-protected with plasters made up as follows: 1½ Volumes Vermiculite Grade and 1 Volume of Retarded Hemi-hydrate Gypsum plaster Class B. S. These proportions must be adhered to if the plaster fire protection is to be fully effective and be accepted by the local authorities.

Series of Tests

The Joint Fire Research Organisation of the Department of Scientific and Industrial Research and the Fire Offices Committee have conducted a series of tests to show the comparative performances of unprotected reinforced concrete floors and floors with vermiculite gypsum plaster on their soffits. I must emphasise that the soffits of the concrete slabs received no other surface treatments than to brush away dust and loose particles immediately before the plaster was applied.

Again, without going into too many figures, the practical effect of these tests can best be explained by reference to present building legislation.

The L.C.C. By-laws and the Model By-laws each schedule 4 in., 5 in. and 6 in. concrete floors where 1, 2 and 4 hours respectively is the period of fire resistance re-

quired. These thicknesses have to be provided, irrespective of structural requirements. Now it is permissible to introduce a combination of reinforced concrete and vermiculite/gypsum plaster. I have, in fact, done so in two recent contracts. Where a 4-hour fire grading applied, necessitating a 6 in. slab, which with its conventional plastered soffit, would have weighed some 80 lb/sq. ft. it was possible to use a 5 in. slab with a 1 in. vermiculite/gypsum plaster soffit weighing 64 lb/sq. ft.—a saving of 20 per cent. Where a 4 in. structural slab would suffice in such circumstances the saving in dead weight amounts to 32 per cent.

Vermiculite gypsum plaster on the beams and on the soffits of the floors has the valuable advantage that the fire protective membrane is continuous over the whole area it has to protect. There is no question of jointing between varying fire protection materials.

In short, if plaster is used to its fullest effect in the fire protection of a building the net result is a very substantial reduction in the dead weight of the superstructure.

I hesitate to generalise about this effect, only because the very nature of buildings is so variable, but the saving will seldom be less than 10 per cent., and in buildings with a high fire risk the saving can be as high as 25 per cent.

It is reasonable to assume that such reductions in weight following as they do on the elimination of concrete casings and the reduction of the dead weights of floors, will lead to some savings in cost but the full effect of this change in the approach to the fire protection of buildings will only become really apparent when it has come more fully into use.

Discussion

During the ensuing discussion, among other questions, it was asked whether plaster had the same corrosion-resistant qualities as a concrete casing. Mr. Mackay, in answering, cited the case of the Tivoli Theatre which was demolished in 1958. Steelwork removed from its decorative coating of plaster was found, after 35 years, to be as clean as when it was put up, and original labels on the steel were still there.

Another question concerned the comparative life and endurance to abrasion and damage of plaster and concrete casings. Mr. Mackay pointed out that if there was a risk of a building being greatly subject to mishandling and damage, then plaster would not be recommended. With regard to indirect damage, however, vermiculite gypsum was by no means a fragile material and was extremely resilient.

Replying to a further question Mr. Mackay described different plasters as having varying degrees of fire protection.

Mr. G. J. Langdon-Thomas, A.R.I.B.A., of the Fire Research Station, conducted the summing-up. Fire and its reduction, he said, may be defined by the terms, Retardation and Separation. Retardation called for surface materials which were inherently noncombustible. Separation called for division of spaces, and for this plaster was invaluable, as plaster on light frames was an ideal medium for separating large production spaces.

PLASTER IN MODERN BUILDING

by J. S. Cothliff, past president, N.F.P.C.

ALTHOUGH, since the war, a great deal has been written and spoken about teamwork in the activities of the building industry, only rarely are plastering contractors invited, at the planning stage or later, before the commencement of a job, to give their advice and guidance on specification and thus play their not insignificant part in avoiding subsequent troubles.

I mention the planning stage because often, after a price commitment for a project based on a poor specification, considerable obstacles can arise with regard to the incorporation of even a modest additional sum to pay for items which eventually could save a great deal in the future maintenance of the building.

All too often the plastering contractor

is brought on to the job to face a *fait accompli* which he knows full well will result in disappointment, if not failure, despite the utmost endeavour on his part.

In the opinion of plastering contractors many disappointments in the finished result are due to the architect's ignorance of, or, in some cases, downright refusal to accept the limitations of plastering materials.

Possibly the greatest source of trouble evident in wall plastering on modern buildings arises from the desire to have a flat or flush surface of plaster over different backgrounds, i.e., concrete columns, lightweight block infilling walls, and possibly metal lathing on stud partition. A little thought in the early stages of construction and timely advice from a knowledgeable plastering contractor can minimise greatly and often eliminate the troubles that can arise on such work.

It would not be fair, however, to place all the blame on the designers of buildings. While we may not have had as much say as we would like in the framing of specifications, we have not been entirely without influence. Yet the first resort of what I believe to be a small minority of plastering contractors is to ignore even the minimum specifications accepted by our industry.

What specifications set out is not, in my mind, so important as the need for us all in the plastering contracting industry to study them carefully, follow the best of them and if, in our honest opinion, the specification needs revising, in the interest either of economy or of producing good results, we should ask for consultation with the architect and, if necessary, with the manufacturers of the materials concerned. We need to talk the same language with quantity surveyors, architects and manufacturers. But to do this effectively we must be ready to reject any ideas we may have that because we have had apparently good results with certain methods we are released from any need to indulge in research and inquiry into new methods and materials which may lead us to produce even better results.

Design

I would like to draw your attention to a new innovation in the United States, where claims are made that the future trends in the architecture of buildings will be determined by the wide, almost limitless, varieties of structural design made possible owing to the ease of construction where steelwork and metal lathing and cement mixes form the outline for any desired effect. Claims are also being made that complete prefabricated metal lath for plaster walls will be delivered direct to the site. Comprising steel stud and channels with an inner mesh to take plaster and a heavier metal lath externally to take facings of stone, brick or stucco, great savings in erection seem to be possible. I think this idea again could lead us to much more variety in the design of houses, hitherto never dreamed of, as no other base is capable of being used with such ease in radius or parabolic design.

Mechanisation and the use of plaster for fireproofing will undoubtedly play a large part in such ventures.

Materials

Those of us who have had the opportunity to witness the extremely high productivity in the United States of America, due mainly to the increasing use of mechanical methods in the plastering industry, are a little disappointed at the efforts of plaster manufacturers in this country in assisting us by the production of comparable materials to those used on the other side of the Atlantic.

I refer in particular to sprayed acoustic plaster, the use of which in the United States has recovered for plasterers a considerable amount of ceiling work previously lost to substitute materials.

The American manufacturers are able, for instance, to produce an acoustic plaster capable of being impressed, after application, with designs formed in timber or plastics, giving a very pleasing decorative effect. And these designs may be gone

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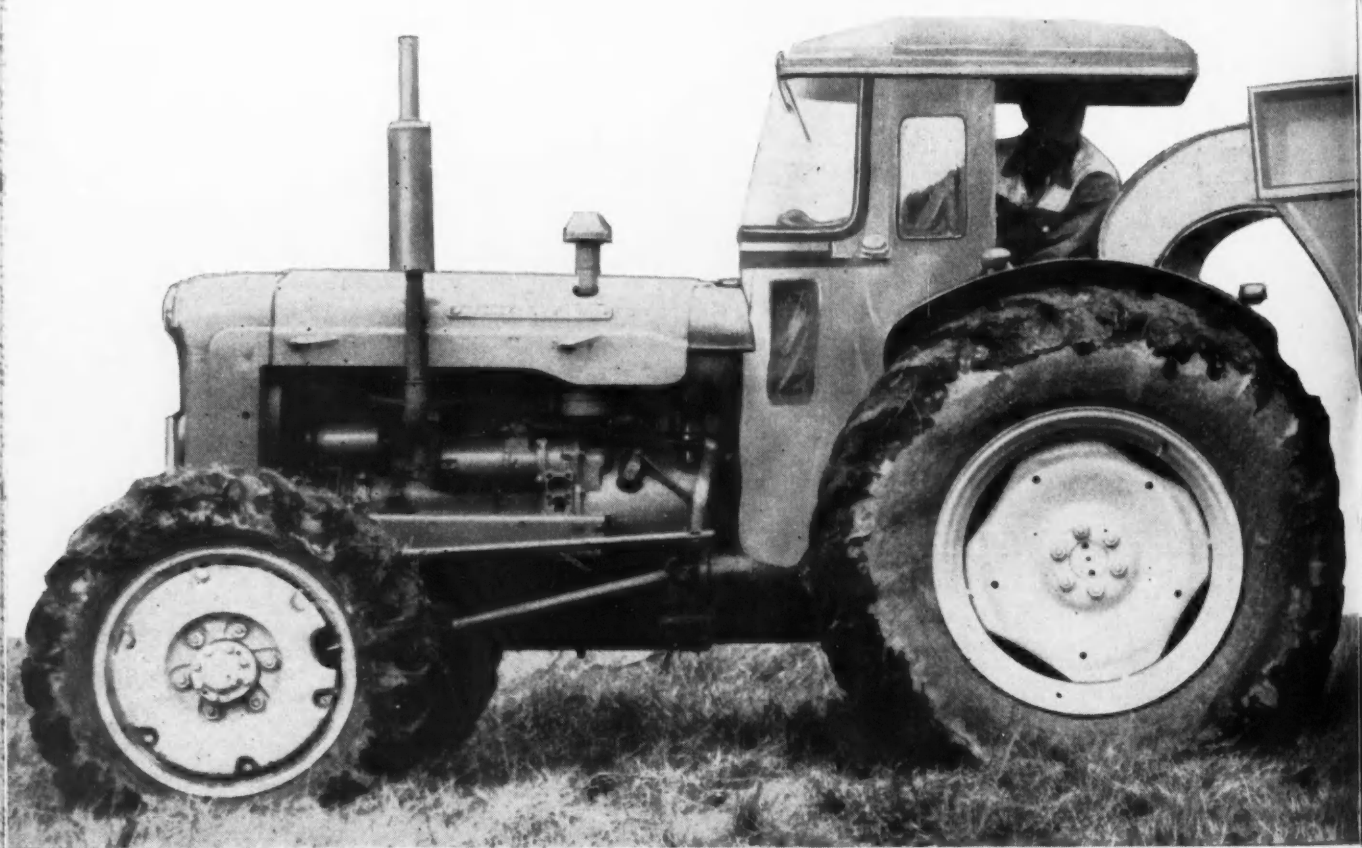
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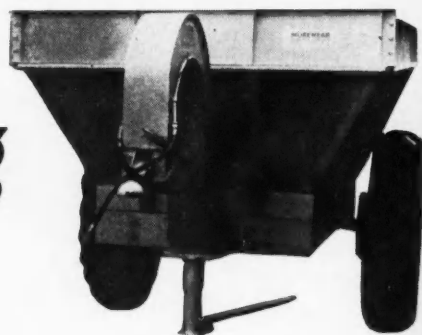
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over again if required at a later date to produce a different design.

They produce also an acoustic plaster capable of being sprayed direct on to steel decking. Moreover, when applied 1½ in. thick on metal lathing it meets a four-hour fire test.

Again, I should like to refer in particular to the spraying of fibreglass for the finishing of swimming pools, columns and roofs, which can be applied as thin as ⅛ in., or successive layers can be sprayed to build up laminates. Unless I am much mistaken I believe also that we should have with us very soon thin-coat plasters, which are now being investigated by plastering contractors in the U.S.A.

The Economics of Plastering

Many people in organised industry in this country today tend to adopt the premise that the very fact that they have been fulfilling certain functions in the life of the community for a long time warrants a continuation of that demand for their services for all time. If we believe in progress, we must consider such thinking a complete fallacy.

Plastering always has been and always will be in danger of losing its place in the building industry due to the incessant claims of producers of substitute materials for a better and cheaper job. Although we have seen hundreds of these substitutes come and go we must always be mindful of the danger they can be to us if we fail in our duty to produce a good job for a reasonable price.

I would like to make it clear that I would regard it as a mistake to compete with substitute materials merely by giving ridiculous prices for bad plastering. Surely it would be better to do a good job of plastering and charge a fair price than to compete in price only, against an inferior product, and thereby cause great harm to the plastering industry.

Problems and Suggested Remedies

The main difficulties confronting plastering contractors today are not, perhaps, so different from those confronting other sections of the building industry, although we may sometimes magnify them to such an extent that we think they are well-nigh insoluble.

I should like to mention, in the hope of letting in a ray of hope to members of our Federation, some of the things I consider to be the pre-requisites for the future success of our industry. They are: Assistance from architects, quantity surveyors, and main contractors in producing reasonable control at the tendering stage. Many main contractors who object to an architect inviting a ridiculously large number of main contractors to tender for a job have no scruples in scouring the country for prices from an equally ridiculously large number of plastering contractors. After what is nothing short of a "Dutch Auction", they produce conditions under which, short of a miracle, the plastering contractor's only hope of averting a considerable loss is to try to get away with avoidance of the specification and/or bad workmanship. One might ask, however, whether it is too much to hope that plastering contractors who are willing to abide by good specifications, and to give good service and a good job, should be able to procure a better price than those of their competitors who consistently evade the specification and produce a bad job.

In short, induced cut-throat competition and ridiculous prices mean bad plastering.

A good specification means a good quality job, and should be the choice of the architect.

It is regrettable, however, that the responsibilities of professional men regarding advance planning, on which firm tenders hinge, are so often ignored by them. Lack of details, changes of mind and alterations during the progress of the work do not, and cannot, lead to continuity of operations; and continuity is absolutely essential for full and beneficial use of mechanical plastering methods.

The criticism is sometimes levelled that

our industry is undermanned. I would say, with due respect to architects and main contractors, that much waste of plastering contractors' manpower, not to mention the additional expense it involves, could be avoided if jobs were properly organised so that plastering contractors could make the best use of their time and labour through having a clear run-through of work.

FIBROUS PLASTERWORK

by T. G. Bowler, past president, N.F.P.C.

ORIGINALLY fibrous plasterwork was fixed on shaped brackets and centering; today quite a large proportion of this work is fixed to steelwork by means of galvanised wire and plaster of Paris mixed with jute scrim and technically termed "wads".

In the past interior decoration was ornate, and with no more economical material than fibrous plaster available a very high degree of artistic skill and craftsmanship was called for. Where fibrous plaster is used in the modern interior an even higher degree of finish and accuracy is required as the trend towards simplicity of design demands perfection of line and finish. It is rather surprising, in view of the versatility of the material, that architects have not made greater use of fibrous plaster.

Fibrous plaster casts, in their normal construction, comply with a one-hour fire test and if thickened up to an even 1 in. thickness, comply with a two-hour fire test. These ratios are further increased by adding vermiculite in the casts in what is technically termed the "seconds" and "thirds," that is to say, normal neat plaster of Paris being on the finished, visible face and subsequent filling in of the casts having the vermiculite gauged therein.

Beam and Stanchion Cases

Precast fibrous plasterwork has been largely used in beam and stanchion cases in modular and precast types of building, firstly as an economical means of covering up lattice type beams and the usual r.s.j. type of stanchion and, secondly, to provide a fireproof protection. Personally, I am not greatly in favour of casing stanchions in this way if the stanchions are in a position to receive knocks, etc., but the fibrous plasterwork can be hardened to a degree by the addition of Dextrine or other agents to the matrix when casting. Fibrous plaster has also been widely used to assist in the acoustical efficiency of buildings and in more recent years the pegboard type of design, with variations, has become all too common. I suggest that designers might give thought to this and evolve something different to achieve the required result.

Some authorities contend that shape and form in design are equally important in achieving acoustical efficiency and where this is the case fibrous plaster has been widely used.

I do not deny that a plain ceiling in fibrous plaster is not the cheapest form of ceiling as the material content can vary from 9s. to 12s. per super. yd., but that is not the end of the story. In earlier days, numerous cornices, etc., were run in situ, with dubbed out backing and Scotch bracketing, etc. Today it has been found to be more economical to have these jobs precast away from the site and then fixed either to wood grounds or by other known methods.

Examined from the prime cost angle and economically from the time factor, on a well organised contract, the material can be prepared in such time as will enable this to be delivered to site as soon as the latter is ready to receive it.

Fibrous plaster can be, and has been, successfully used for ceilings where these are constructed for invisible panel heating. In such cases the wood lath reinforcement is omitted and roped jute scrim used in lieu and the back of the fibrous plaster casts struck off flush. This enables such ceilings to be panelled and even enriched. I know of no other material more suited to receive painted decoration; it is inert and any colour treatment can be applied as soon as the plasterer has finished, and with absolute safety, thus enabling the

decorator to carry out a complete and permanent scheme of decoration that will stand until such time as the building owner desires a change of colour scheme.

Discussion

Points raised in the discussion of the two Papers, with their theme of developments in plastering, included a plea for more popular advertising and publicity for the plastering industry, as in the United States, and the suggestion that plastering should become more flexible with regard to apprenticeship.

Plasterers were described during the discussion as the Cinderella of the building industry. They should always be nominated sub-contractors, it was claimed, and as a national body, the Federation should be approached more often by architects and contractors with their problems. An appeal was also made to architects to give the plastering contractors a status.

Summing-up, Mr. A. C. V. Telling, past president, N.F.P.C., stated that it was obvious from the conference that the plastering industry was a progressive and virile industry. In reviewing the economic situation that confronted the plastering industry, he said that everyone was looking for something spectacular or something new, but that the new was better than the old was a fallacy. It was wrong to stop technological progress, but some unalterable principles must remain.

The only worthwhile finish for walls, ceilings, and fire protection, he maintained, was good old-fashioned plaster. A simple question was often unasked: it was, could I use anything else but plaster at the same price? The answer was no.

MINOR SCHOOL WORKS

The Minister of Education, Sir David Eccles, last week announced a proposal to abolish the upper limit of £20,000 on the cost of minor school building projects.

He informed the conference of the Association of Education Committees at Llandudno that this was one of two major alterations in procedure which would be introduced in a circular being sent out inviting comments.

DEVON ROAD WORKS

Use of Direct Labour

To the Editor of "The Contract Journal."

Sir,—I have read with much interest the summary in your issue of June 22 of the annual report of the County Surveyor of Devon and would like to make the following comments:—

1. It is noted that during the year in question as many as 88 classified road schemes of various sizes have been completed by direct labour. One wonders in how many of these cases competitive bids were sought from contractors.

It has always been my Federation's contention that direct labour departments should tender for work in competition with contractors on equal terms and should be awarded jobs only if their bids are better than those of contractors.

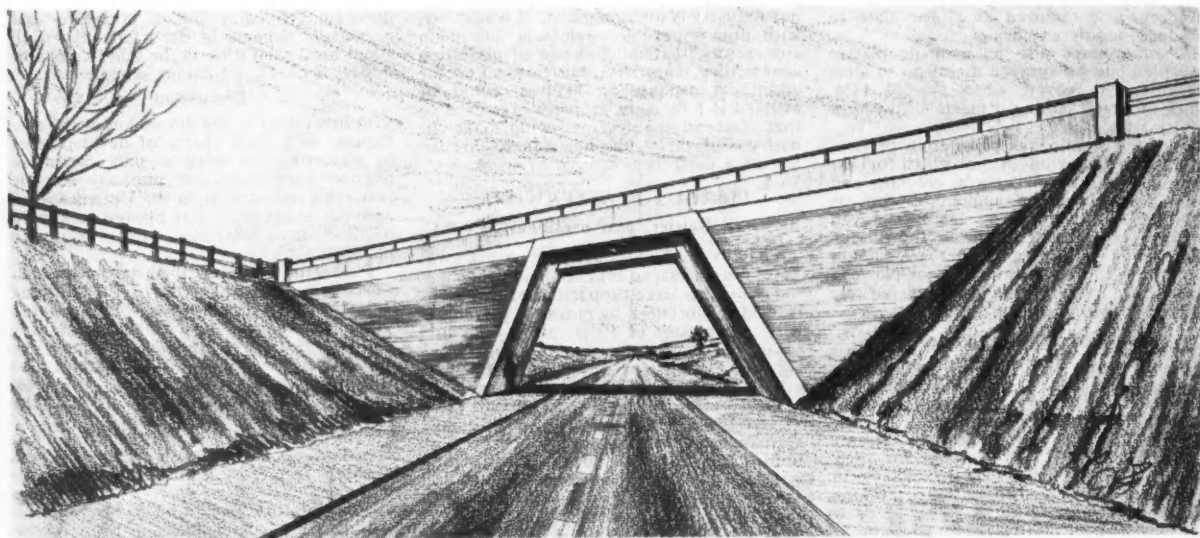
My Federation's members in the South-Western area have, for a long time, had spare capacity to undertake work of this sort and I venture to express the hope that they will be given the opportunity to tender by the Devon County Council in the future.

2. The County Surveyor also mentions that "it has been necessary in some instances to engage outside contractors to assist on emergency works". While our members are only too willing to undertake such works, it is surely rather hard to expect an active civil engineering industry to continue in being in the area unless they have the opportunity of tendering for the continuous flow of permanent work, as well as taking their share of emergency work.

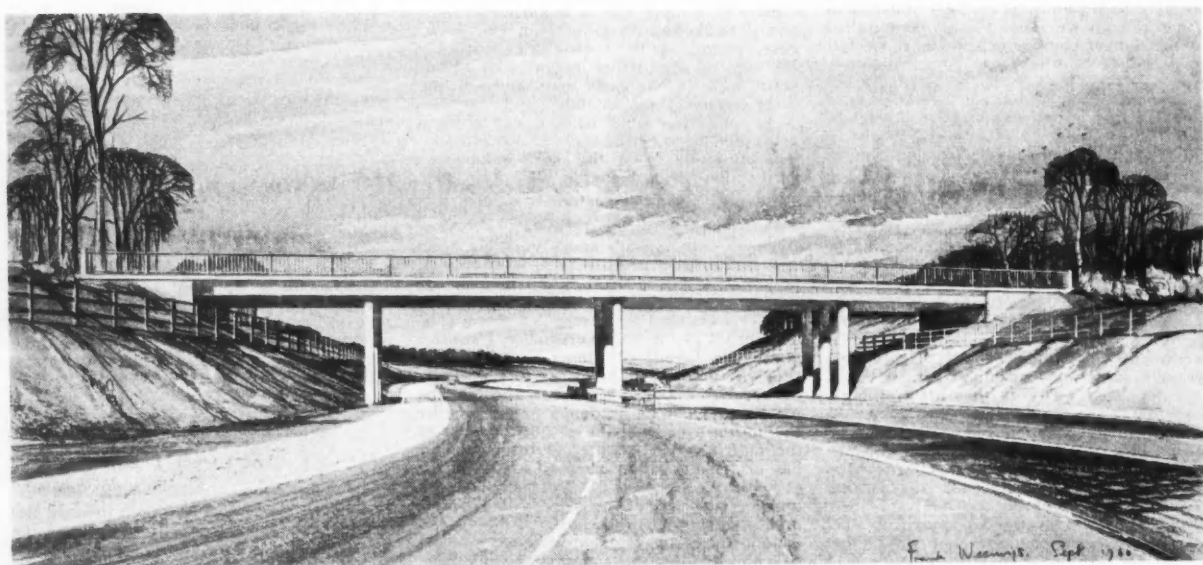
Yours, etc.,

A. CHAS. NEWMAN,

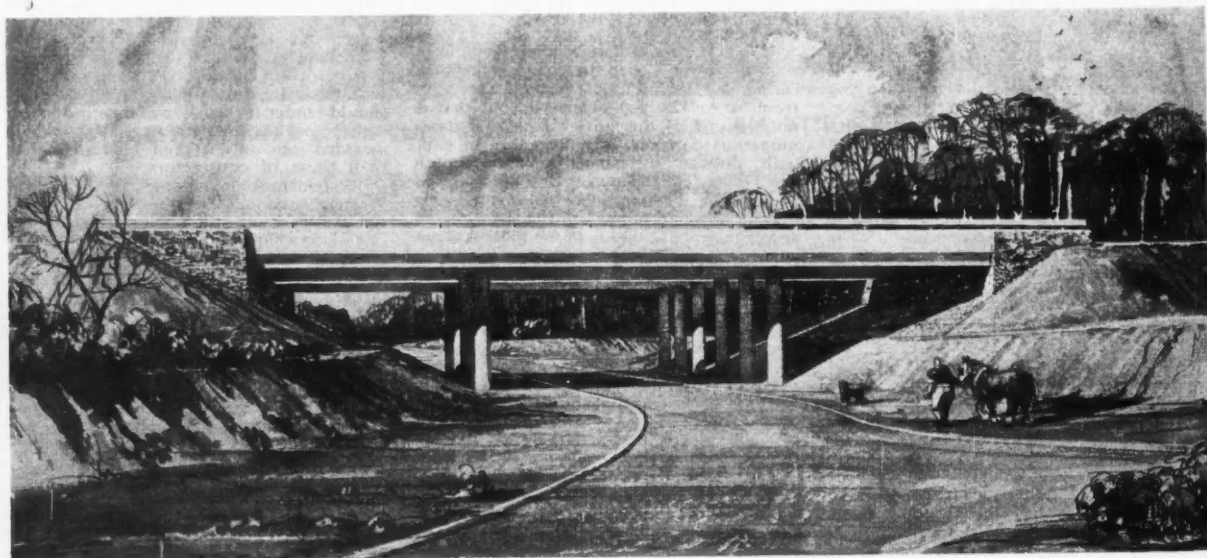
Chairman, Public Relations Committee
The Federation of Civil Engineering Contractors.



A single-span overbridge



A typical four-span overbridge



A typical three-span overbridge

MEDWAY MOTOR ROAD USES BOTH RIGID AND FLEXIBLE CONSTRUCTION

BOTH rigid and flexible construction will be employed on the 26-mile length of the Medway Towns motor road, for which, as reported recently, contracts have now been placed.

The motorway, which will become the M.2 in the country's route system, will leave the existing A.2 at "The Three Crutches," approximately two miles west of Rochester Bridge, and will rejoin the A.2 about two miles east of Faversham, at the junction with the A.299. It will cross the River Medway by a cantilever-type prestressed concrete bridge (Contract No. 1), upon which work has already been proceeding for some time.

To be built to dual two-lane carriageway standards, 24ft. wide, with 10ft.-wide hard shoulders and a 13ft.-wide central reservation, the road is designed with curves having a minimum radius of 2,864ft. and with a normal maximum gradient of 1 in 30. All curves with a radius of less than 11,460ft. will have transition spirals and will be superelevated.

Contract No. 2

Apart from the Medway bridge, the motorway itself is divided into three contracts, the first of which is designated as Contract No. 2 and which consists of the section of road from "The Three Crutches" to the west bank of the River Medway.

On this section flexible construction will be used to give a total construction depth of 20in., conditioned by the frost heave characteristics and varied by the C.B.R. of the chalk subsoil. This depth will comprise a 6in. sub-base of imported gravel; a single 6in. layer of cement-bound granular material; 4in. of bitumen macadam in two 2in. layers; and 4in. of hot rolled asphalt consisting of a 2in. base course and a

1in. wearing course with 30 per cent. stone content and coated chippings rolled in.

Hard shoulders will be made up of a 6in. granular sub-base; 11in. of cement-bound granular base in two layers, the lower being 6in. thick and the upper 5in.; and a 2in. top course of hot rolled asphalt. Dressing of the shoulders with brown chippings will give a colour contrast with the carriageways.

The margin between the carriageway and the hard shoulder will be formed by 12in. by 6in. precast concrete channel kerbs, flush with the surface, and drainage of the motorway across the hard shoulders will be directed by a half-battered kerb, 6in. by 4in., extruded in situ in asphalt. This kerb will be founded on top of the lower layer of the cement-bound granular base.

Drainage will be by means of gullies. In cuttings drainage will be through pipes to soakaways and on embankments through channels down the batters of slopes ultimately to soakaways. Over the whole length of the M.2 drainage will be by soakaways into the chalk substrata, with the exception of one stream crossed at the east end of the route.

Bridges on this section will include those at "The Three Crutches," where the road leaves the A.2, and at Cuxton Road where there will be an interchange with the A.228 Stroud-Maidstone road.

Total earthworks in Contract No. 2 will consist of more than 600,000 cu. yd. of chalk and sand.

Contract No. 3

Contract No. 3 involves the section of motorway from the east bank of the Medway to about half a mile beyond the A.249 intersection at Stockbury Valley.

Road construction will be identical in

all respects to that for Contract No. 2, and the total earthworks will comprise about 2,500,000 cu. yd. of chalk with some clay.

On this section the alignment of the road has been chosen to avoid the populated areas around Rochester, Chatham and Gillingham. The road will climb on to a chalk ridge at Bluebell Hill and follow the Nashenden Valley. In the side long ground the carriageways will be separated at different levels with a central median to be a maximum of 16ft. in width. An interchange with the A.229 Rochester-Hastings road will be constructed at Bluebell Hill, involving unavoidably a bridge with a 64 degree skew.

The next interchange will be at Bredhurst where the proposed link to Gillingham will join the M.2.

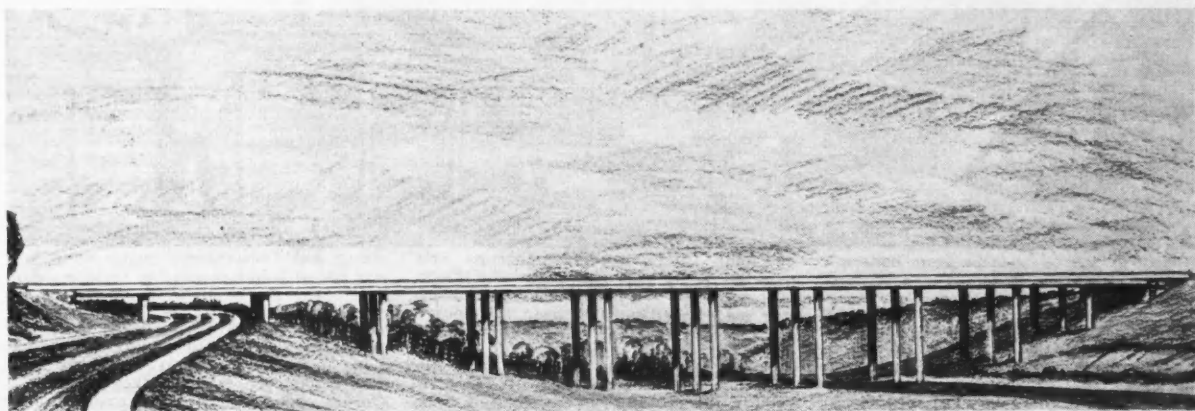
Between Bluebell Hill and Bredhurst the motorway will pass mostly through woods. Beyond Bredhurst, at Farthing Corner, a service area will be provided, with refueling facilities, garage, cafe and restaurant. An area will also be provided for people wishing to picnic.

From Farthing Corner to Stockbury Valley the country is more open, and although not visible from the motorway itself, the outstanding structures along this length will be two viaducts carrying the M.2 across Mount Lane and the Stockbury Valley.

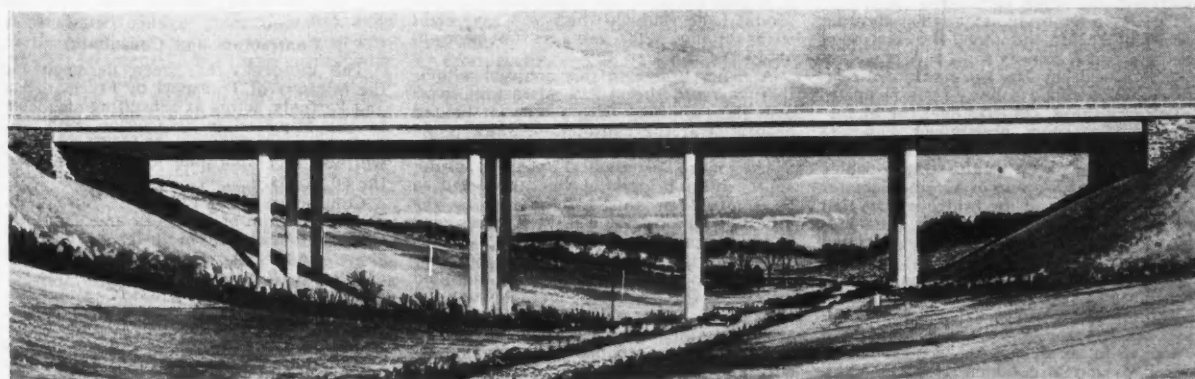
Contract No. 4

The last length of the route, Contract No. 4, runs from Stockbury Valley to Brenley Corner, where the M.2 rejoins the A.2 at the junction with the A.299.

Rigid construction will be used on this contract. Alternative tenders were obtained for all three sections; with Contracts Nos. 2 and 3 flexible construction was chosen as the tenders for this were lower, but with



Stockbury Valley viaduct



Bottom Pond Valley viaduct

Contract No. 4 a rigid form was the more economic to employ.

The depth of the road on this length will be 18in., consisting of a reinforced concrete slab, 10in. or 11in. thick, reinforced with a mesh weighing 8½lb. per sq. yd., on top of a granular base up to 8in. in depth.

Hard shoulder construction, however, will be flexible, and will include a 6in. sub-base, 9in. of cement-bound granular base, comprising a bottom layer of 4in. and a top layer of 5in., and a top course of 2in. hot rolled asphalt.

The kerb will be concrete, again extruded, and the margin will be formed of a 12in.-wide thermo-plastic strip, ½in. thick. A more positive drainage is ensured by the use of the upstanding kerb, which will be 2in. higher than the surface of the M.2.

Cut and fill on this part of the motorway will involve the moving of about 1,750,000 cu. yd. of material, mainly chalk.

Bridgeworks

The first of the bridges on the motorway, to be constructed as part of Contract No. 2, will be at "The Three Crutches," and will be a 45 degree skew reinforced concrete slab overbridge with four spans, foundations being spread footings on sand. These overbridges are provided to carry minor roads over the motorway, and will be of reinforced concrete, the deck consisting of a slab generally 26in. thick, supported directly on integral columns with expansion

the motorway at Abbots Court. These two structures will be on piled foundations.

Stockbury Valley Viaduct

A major feature of this contract will be the construction of the Stockbury Valley and Mount Lane viaducts. The first of these will be an 11-span structure, 855ft. long, carrying the motorway over the dry Stockbury Valley at a maximum height of 80ft.

A number of alternative designs were considered, including an elegant box girder structure, but were discarded on the grounds of cost. The design adopted was chosen as being economical and at the same time having appearance in keeping with the other bridges on the motorway.

The spans, generally of 85ft. were dictated by economics and by clearance requirements for the A.249 road and the west slip road.

The viaduct will consist of in-situ prestressed concrete beam and slab construction, transversely reinforced, supported on reinforced concrete two-bay portal piers the crossbeams of which are formed within the depth of the beams. The deck will be simply supported in each span for dead load. Continuity for live load is provided by longitudinal reinforcement in the slab over the piers.

Hinge bearings will be used to support the deck on each buried abutment, the piers being integral with the deck and a halved

was therefore designed to allow it to be built and opened to traffic in two halves.

Basically it will consist of simply-supported prestressed concrete beams which may be precast if desired, together with a reinforced concrete deck slab. The deck will be made continuous for live load by means of longitudinal reinforcement in the deck slab over the central support which is formed of reinforced concrete hinges on a reinforced concrete central pier. Diaphragms will be omitted because of the complicated details involved with such a skew, and the complication of constructing a deck containing them in strips under traffic.

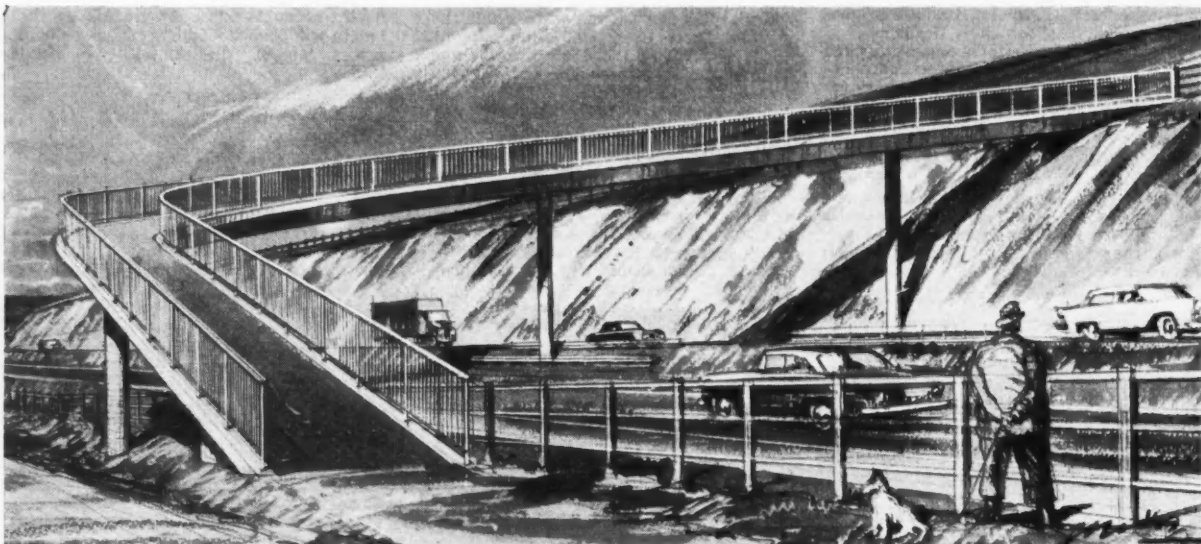
Further Viaduct

Another viaduct is included in Contract No. 4 at Bottom Pond Road. This will be a five-span partially continuous prestressed concrete beam and slab structure, with a total length of 375ft. and a maximum height of 60ft. on piled foundations.

This contract also includes a total of 28 bridges, as with Contract No. 3, mostly founded on chalk.

At Clock House, a single-span prestressed concrete slab bridge founded on bored piles will be constructed, with horizontal bored struts under the railway line to restrain the abutments, which have brick-faced wing walls.

Other major bridges on the last section of the motorway include two four-span



The Borstal footbridge

bearings at the buried abutments. The square span of the central spans will be 45ft. 9in., with ducts for services under the footways.

This type of bridge was chosen for its economy and for the ease with which it can be adapted to moderate skews and curves. There are 16 bridges of the class described, and seven variations.

Two further bridges on this contract consist of a 15ft.-wide by 14ft. reinforced concrete portal subway for a fuel pipe, and a 7ft. 6in.-wide by 7ft. lin. reinforced concrete box forming a subway for a footpath.

To carry the A.228 road over the motorway a three-span prestressed concrete portal slab structure will be used. It will be prestressed with multi-strand cables each formed by a group of 12 ½in. diameter cables. The ends of the bridge will be tied down on to roller bearings with 1½in. prestressed bars. Foundations will be spread footings on chalk.

Contract No. 3 involves the construction of a total of 28 bridges, mostly founded on chalk. Spread footings will be used in all cases except for a four-span reinforced concrete footbridge with central beam carried on single columns over the road, at Green Lane, and a six-span reinforced concrete slab bridge carrying a road over

expansion joint being provided in the centre span.

Acceleration considerations for the adjacent interchange with A.249 will require the provision of accelerating lanes over part of the viaduct. These will continue over the full length for reasons of appearance.

Similar construction will be used for the Mount Lane viaduct, which will have eight spans totalling 480ft. and a maximum height above the valley of 40ft.

A major bridge in this contract will be that carrying the A.229 Maidstone road over the motorway with somewhat limited headroom at the considerable skew of 64 degrees.

The more economical parapet girder approach to bridges of this skew had to be omitted in this case owing to the necessity for bringing a private access road and a footpath on to the bridge.

Due to the need to preserve adjacent property two spans have been adopted instead of the standard four. An unusual corrugated form of reinforced concrete abutments and retaining walls have been adopted on the grounds of better appearance and economy.

The site is restricted and the Maidstone road takes considerable traffic; the bridge

continuous prestressed beam and slab structures carrying the A.251 and Salters Lane over the motorway; four-span reinforced concrete slab bridges at Brenley Corner, over the Medway road, forming part of the elevated roundabout at the junction with the A.299; and a three-span twin reinforced concrete structure carrying the motorway over a road at Hunt Kennels.

Contractors and Consultants

The motorway has been designed for the Ministry of Transport by Freeman Fox and Partners, acting as consulting engineers to the Minister, in association with Mr. R. F. Earley, B.Sc.(Eng.), M.I.C.E., and they will also be responsible for supervision of the contracts.

Contractors are as follows: (Contract No. 2) a consortium of J. L. Keir and Co., Ltd., Christiani and Neilsen, Ltd., and Sydney Green and Sons (Contractors), Ltd., at £1,006,408; (Contract No. 3) Geo. Wimpey and Co., Ltd., at £5,954,183; (Contract No. 4) John Laing Construction, Ltd., at £4,734,665.

J. L. Keir and Co., Ltd., in association with Christiani and Neilsen, Ltd., are already engaged in the construction of the Medway bridge and its approach viaducts.

INSTITUTE OF SEWAGE PURIFICATION

Diamond Jubilee Conference Discusses Water Reclamation

The Diamond Jubilee Conference of the Institute of Sewage Purification, held last week in Brighton, marked the beginning of a new era. The theme of the Conference was "water reclamation," a somewhat wider subject than that indicated by the title of the Institute. The increasing awareness of the need for the conservation of the country's water resources, marked by recent Ministerial announcements, well merited the detailed attention given by the Conference. The following are summaries of the Papers presented.

REFLECTIONS ON 25 YEARS IN MIDDLESEX

by C. B. Townend, C.B.E.

MR. C. B. TOWNEND'S reflections were on the quarter century since the Middlesex County Council's Mogden Works came into operation: throughout that period he has been Chief Engineer to the Main Drainage Department.

The West Middlesex undertaking was originally planned for a potential population of 2,000,000, but although an area of nine square miles in Buckinghamshire has been added to the original and the Borough of Acton will shortly be added the revised potential population is not likely to exceed 1,500,000.

Only some 7 to 8 per cent. of the rain falling on the 171 square miles of the drainage area reaches the foul sewers, and in no year has the flow to Mogden exceeded 240 g.h.d. for more than 58 hours in toto.

Since 1936 the population served has risen by 40 per cent., the dry weather flow by 75 per cent. and the impurity load by 72 per cent., with a change in sewage character to one with a greater proportion of industrial waste of a chemical nature.

Present extensions, to meet greater loads, to restore purification capacity lost because of synthetic detergents and to improve efficiency, will provide for the full treatment of 75 m.g.d. of sewage in dry weather, with a maximum of 180 m.g.d., equivalent to 120 g.h.d. from a population of 1,500,000.

Recent developments include the installation of four 36in. comminutors and the partial conversion to comminutors of the existing screening and maceration plant. Grit will be removed by air lift from channels given a spiral flow by the air, and a combined pre-aeration and grease removal plant is being installed in the new extensions.

Developments in sedimentation tank design led to the use of circular tanks, later equipped with central sludge hoppers, and, in recent extensions, to constant velocity radial-flow tanks with a hyperbolic floor profile. For improvement in operational efficiency, a system of remote measurement of sludge density motivating the valve operation necessary for de-sludging has been developed.

Activated sludge plant operation was severely affected by "the onslaught of synthetic detergents", but experiments with 7in. dome diffusers in lines 2ft. 6in. apart across the full width of the aeration tank indicate a substantial increase in purification capacity can be obtained.

In the 18 years to 1954 the total volume of stormwater receiving only partial treatment was 4 per cent., and none was discharged to the river direct.

Methane Saved £100,000

Concerning the operation of the power station, Mr. Townend stated that following the development of the oil-ignition dual-fuel engine, work on reducing the amount of fuel oil needed for ignition has resulted in only 2 per cent. of the total fuel consumption being needed. In recent years the use of methane has effected an annual saving of nearly £100,000 per annum.

In the 24 years to 1960 the performance of the sludge digestion plant has remained satisfactory, but with experiments directed towards external heating, and gas circulation for scum control.

The author stated the need for adequate sludge storage in relation to sludge drying bed operation and described the type of lagoon-tank developed at the Perry Oaks works for this purpose. In the case of drying beds the development of the sludge lifting machine has been the biggest single advance in operation, and the filling of beds by travelling supply pipes was being considered experimentally.

The control of trade effluents had been an important part of plant operation and Mr. Townend concluded that had this not been undertaken the total impurity load on the Mogden Works would be at least double the present.

The Paper concluded with a brief reference to the East Middlesex (Deep-hams) Scheme, now under construction.

AERATION AND BIOLOGICAL OXIDATION IN THE ACTIVATED SLUDGE PROCESS

The authors (A. L. Downing, A. G. Boon, and R. W. Bayley of the Water Pollution Research Laboratory) first described the experimental procedures used in assessing the performance of aeration systems, and the results obtained for all types of diffused air and mechanical aeration plants. They then described the programme of work on biological oxidation and oxygen consumption in activated sludge plants and discussed the results obtained in terms of B.O.D. and P.V., nitrification and rates of utilisation and absorption of oxygen.

The authors concluded that "from a study of the performance of aerators of many types, it appears that most of those used in activated sludge plants have aeration efficiencies under typical operating conditions at sewage works of between 1,000 and 2,000 g/kWh." While higher values had been reported from some new types of brush and aeration cones "there seems little prospect of achieving efficiencies much greater than about 3,500 g/kWh with any existing process."

The providing of plants with oxygenation capacities at rates up to 10 or 20 times those common in Britain seemed to present no difficulty, but it was not yet possible to assess how far detention periods might be reduced without adversely affecting effluent quality.

From preliminary work at sewage works "it is concluded that nitrification of ammonia does not take place until the concentration of dissolved oxygen in the mixed liquor exceeds values of the order of 0.5 to 0.7 p.p.m." Thereafter the conversion rate was approximately constant at, where dissolved oxygen concentration is above the critical level, about 0.5 p.p.m./hr. per 1,000 p.p.m. activated sludge in the mixed liquor.

"Rates of removal of five-day B.O.D. from the liquid phase, during aeration of mixed liquor, were initially very high but decreased rapidly, and after about half an hour were equal only to about 1 to 3 per cent. of the initial B.O.D. in the sewage per hour."

"Rates of consumption of dissolved oxygen in the mixed liquor appeared to be

substantially independent of the concentration of dissolved oxygen down to about 0.5 p.p.m. and were of a similar order at each works, the total range being from 33 to 67 p.p.m./hr."

These preliminary studies had shown that much more work would be required "to determine quantitatively the effects of the many factors which influence the performance of activated-sludge plants and to assess the scope for further development of the process."

THE CHEMICAL ENGINEER AND PURIFICATION OF POLLUTED WATER

Opening the sixth J. B. Croll Memorial Lecture, Professor F. H. Garner, O.B.E., of the University of Birmingham, stated "There are probably few industries which bring together such a wide range of disciplines as the purification and handling of polluted water."

One of the most important problems was that of dissolving oxygen from the air in water and the efficiency of that process was dependent upon plant design and operation, both primarily matters of sound engineering.

The removal of solid materials had two aspects: the separation of relatively small amounts of solid by sedimentation, and the draining and evaporation of water from solid matter. The sludge drying problem could be summarised "as the production of a sludge which can be filtered efficiently . . . to give a filter cake of low water content."

Professor Garner then traced the evolution of chemical engineering as a separate science.

Relating the work of the chemical engineer to waste water purification, he stated that "the whole field of water purification has had of necessity to be developed empirically, and technology has always preceded pure science in the history of man." The chemical engineer had probably the closest connection with the pure sciences.

Chemical engineering was largely concerned with mass transfer between the phases and the chemical engineer was more often concerned with physical than chemical operations. "Unit operations"—processes of separation and synthesis—were his concern, and the rise of continuous processes led to a recognition of the opportunities in chemical engineering.

Sewage purification was largely an industry of continuous processes, and "whilst the sewage purification field had developed one of the pioneer continuous microbiological plants much basic work on the factors involved is still needed."

Recently much work had been done by Downing to help clarify our knowledge on the processes of solution of oxygen in water, and Professor Garner also referred to the work of Herbert, who classified trickling filters as an example of the packed bed and the activated sludge process as an example of the stirred fermenter.

Water purification was of increasing importance, and "the chemical engineer with his concept of unit operations underlying all processes and plants in which mass transfer is taking place, should be able to make a useful contribution to the most economical solution."

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SYMPOSIUM: ARMER AND AFTER

This symposium on the final report of the Trade Effluents Sub-committee of the Central Advisory Water Committee opened with a Paper by J. L. Spiller, D.F.C., clerk of the Lee Conservancy Catchment Board on "The Background and Legal Implications."

Mr. Spiller recalled, in commenting in detail on the report, how Section 7 of the Act of 1951 came into being; that section, he said, was hailed as a major instrument in preventing pollution. The report recommended a similar procedure for application to discharges already occurring when the 1951 Act came into force.

Concerning the discharge of trade effluents into sewers, Mr. Spiller concentrated on the common law aspects of the report. He dealt with the controversy stemming from the fact that a riparian proprietor was considered by law to have a natural right to the water flowing through his land, and to have the water in its natural condition and purity.

Municipal Viewpoint

The local authorities point of view was put by John Finch, manager, Borough of Slough Sewage Purification Department, in the second Paper. In particular he referred to the so-called "prescriptive right" to discharge trade effluent to sewer, established under the Public Health (Drainage of Trade Premises) Act, 1937. The Report's recommendation that such discharges should be the subject of charges for treatment would be welcomed by local authorities. He subscribed to the view that local authorities should retain the power to refuse admission of wastes it would be inadvisable to have in its sewers. The recommendation that "sufficient grounds have not been shown for the giving of statutory authority to abrogate contracts between traders and local authorities" would not, Mr. Finch said, be welcomed but it should act as an incentive for local authorities to include termination clauses in future trade effluent agreements.

Mr. Finch supported the recommendation that industry be represented on River Boards in view of the contribution it could make technically to the work of the river authority.

Discharges to Rivers

In the third Paper, on "The Control of Effluents Discharged to Rivers", W. F. Lester, chief inspector, Kent River Board, commented on the definition of a "new discharge", pointing out that regardless of the size of a discharge from a sewage works, an increase of 1 per cent. per annum would not require river board consent. They were, therefore, only able to take action after pollution had been caused in such cases.

He stressed the need for compliance with the river board's standards at all times and condemned the discharges taking place under "the innocuous name of storm-water."

In detail he considered the difficulties of administering the Consent procedure under Section 7 of the 1951 Act, and welcomed the recommendation that river boards' consents should be subject to time limits, providing, if conditions dictate so they can be reviewed before the end of the time stated in the consent.

He added: "With other powers likely to be given by Parliament to river boards to control the abstraction of water . . . boards with the control of effluents envisaged by the Committee should be able to manage a river, ensuring that its quality and rate of flow remain at not less than a predetermined standard at all times of the year."

COSTS OF CONSTRUCTION OF SEWAGE TREATMENT PLANTS AND THEIR INFLUENCE ON DESIGN

Mr. John T. Calvert, M.I.C.E., prior to considering the factors affecting the costs of sewage treatment works which are within the control of the engineer gave as his view that "many of the public works carried out since the war have cost more than they ought because so much work has been flooded on to the market resulting in high prices followed by virtually an absolute ban on capital expenditure so that no advantage has been taken of the low prices obtaining during a recession in private investment."

Site considerations played a large part in determining costs; not only the nature of the ground and its topography, but also its situation with regard to other develop-

ment and its proximity to a suitable water-course. He cited the case of Baghdad where although sufficient dilution of effluent was available in the Tigris to enable it to receive only partially treated sewage at all times, military considerations dictated the use of a site near the small Dyala River, and full treatment had to be provided.

Dealing with individual items of treatment works he showed how, in the case of sedimentation tanks unit cost increased as size decreased and the cost of hopper-bottomed tanks was high compared with even small rectangular tanks.

In the case of percolating filters, the principal item affecting costs was that of the medium used and he would welcome the results of research by the Water Pollution Research Laboratory into the relative efficiencies of differing media. To be able to estimate how much more gravel was required to produce the same quality effluent as clinker would enable proper cost comparisons to be made.

Sludge Disposal

Concerning sludge disposal, Mr. Calvert was of the opinion that the most promising solution of the sludge problem—"almost independent of cost"—must be a combination of a mechanical drying process and air drying; not to have all one's eggs in one basket.

In considering sludge digestion he emphasised the cost of gas collection in relation to the cost of the storage capacity. It seemed that for the same total cost two to three times as much unheated digestion tank capacity could be provided as heated.

Sludge drying beds, with no abnormal conditions, cost between £3 and £4 10s. per sq. yd., but an impervious concrete floor could add £1 to £1 10s. per sq. yd. to this. At West Hertfordshire, where the Board were forced, by circumstances outside their control, to use a site with extremely unfavourable conditions, the cost will be nearly £7 per sq. yd.

As to mechanisation, Mr. Calvert stated that under average conditions it was economical to incur a capital expenditure of £12,000 to £15,000 in order to reduce the labour requirements by one man. A particular case of the value of mechanisation which he cited was the mechanical sludge lifter recently developed, although so far this was only applicable to larger works.

GOOD HOUSING DESIGN COMPETITION WINNERS

THE winning schemes in the 1961 good housing design competition, held under the auspices of the Ministry of Housing and Local Government, were announced last week. The Minister, Mr. Henry Brooke, will present the awards on July 13, at the Royal Institute of British Architects, 66 Portland Place, London, W.1.

The competition has been held by the Ministry in collaboration with the R.I.B.A. to promote the highest standards of design in housing schemes. Groups of 10 or more dwellings built between December 31, 1955 and December 31, 1960 by either public authorities or private developers were eligible to compete, and in the judging emphasis was on the interesting and attractive grouping of buildings.

For the purpose of the competition, England was divided into four regions, and Wales was treated separately. Awards for urban and rural building are being made, and the winning schemes have been chosen on the recommendations of panels of judges. A total of 463 housing schemes in England and Wales was entered in the competition.

Details of the winning schemes are as follows:

London Region

Award for Urban Building.—Munster Square, London, N.W.1 (76 flats and 80 maisonnettes). Commissioned by St. Pancras Borough Council; designed by Edward Armstrong and

Frederick MacManus, FF/R.I.B.A.; built by H. Fairweather and Co., Ltd., Muswell Hill, N.10.

Award for Rural Building.—Fieldend, Waldegrave Park, Twickenham, Middlesex (51 terrace houses with garages). Commissioned by Priory Hall, Ltd.; designed by Eric Lyons, O.B.E., F.R.I.B.A., M.S.I.A.; built by Myton Ltd., Ealing, W.5.

Awards Committee: J. L. Womersley, F.R.I.B.A., M.T.P.I., chairman; Prof. Sir L. Martin, M.A., F.R.I.B.A.; E. T. Salter, A.R.I.B.A.

Midland Region

Award for Urban Building.—Alderson Place, Queens Road, Norwich (24 flats and four garages). Commissioned by City of Norwich; designed by David Percival, B.A., A.R.I.B.A., M.T.P.I., city architect; built by W. Ames, Ltd., Great Yarmouth.

Award for Rural Building.—Church Road, Bergh Apton, Norfolk (12 houses and seven garages). Commissioned by Loddon Rural District Council; designed by Tayler and Green, FF/R.I.B.A.; built by Wollnough and Cogman, Norwich (1st contract), and Thirle and Harris, Ltd., Norwich (2nd contract).

Awards Committee: G. Grenfell Baines, O.B.E., F.R.I.B.A., A.M.T.P.I., chairman; P. B. Dunham, F.R.I.B.A.; A. D. R. Cowley, O.B.E., A.R.I.B.A.

Northern Region

Award for Urban Building.—Bidston Court, Boundary Road, Birkenhead, Cheshire (24 flats, 13 maisonnettes and 14 garages). Commissioned by Melville Cullender; designed by James and Bywaters, A/R.I.B.A.; built by James Goode of Liverpool.

Award for Rural Building.—No recommendation.

Awards Committee: F. R. Stevenson, A.R.I.B.A., chairman; A. G. Sheppard Fidler, M.A., B.Arch., F.R.I.B.A., A.M.T.P.I.; A. A. Bellamy, A.R.I.B.A., A.M.T.P.I.

Southern Region

Award for Urban Building.—Parkgate, Somerhill Road, Hove (47 flats and 18 garages). Commissioned by Bargood Estates, Ltd.; designed by Eric Lyons, O.B.E., F.R.I.B.A., M.S.I.A.; built by Gee Walker and Slater, Ltd., Park Lane, W.1.

Award for Rural Building.—Frenchlands Hatch, Ockham Road South, East Horsley, Surrey (13 old people's dwellings and one warden's house). Commissioned by the Architects' Benevolent Society; designed by Clifford Culpin and Partners, F/R.I.B.A.; built by Carlton Contractors, Ltd., Epsom, Surrey.

Awards Committee: A. Ling, B.Arch., F.R.I.B.A., M.T.P.I., chairman; Prof. R. Gardner-Medwin, B.Arch., F.R.I.B.A., M.T.P.I.; Robert H. Shaw, B.Arch., A.R.I.B.A., A.M.T.P.I.

Welsh Office

Award for Urban Building.—Croes-y-celliog, Cwmbran, Monmouthshire (eight houses and seven flats). Commissioned by Cwmbran Development Corporation; designed by John West, A.R.I.B.A., M.A.T.P.I., chief architect; built by Geo. Wimpey and Co., Ltd., Cardiff, and W. and A. Davies, Ltd., Pontypool.

Award for Rural Building.—Rockfield Road, Monmouth (20 flats). Commissioned by Monmouth Borough Council; designed by J. H. Evans, A.R.I.B.A., A.I.Arb.

Awards Committee: H. J. Whitfield Lewis, F.R.I.B.A., M.T.P.I., chairman; D. P. Thomas, B.Arch., A.R.I.B.A., A.M.T.P.I.; John Hughes, B.Arch., F.R.I.B.A.

"CRYSTAL 61"—REVOLUTIONARY SHOWPLACE PROPOSED FOR BRITAIN

A TOWER 1,016ft. high in reinforced concrete and glass which could be a showplace for British industry is the latest project proposed by the Glass Age Development Committee which is convened by Pilkington Brothers, Ltd.

Bigger than the Eiffel Tower, the new project is "Crystal 61" which is estimated to cost about £10m. The site chosen for the exercise is alongside the rail tracks just north of St. Pancras, London.

The 1,000ft. structure is designed by Ove Arup and Messrs. Jellicoe, Ballantyne and Coleridge. Assisting them, from each of their offices, were two young designers—J. Martin, engineer, and H. Moggridge, architect.

Their idea for what would become the highest building in Britain exploits an entirely new constructional technique. While most high buildings, such as the Empire State (1,250ft.) are supported by grids of columns, the "Crystal 61" tower would have one central, hollow, concrete column 130ft. in diameter at the base, tapering to 30ft. at the top supporting layers of circular floors. At its widest point the building would be 302ft. in diameter (the Albert Hall is 270ft. inside).

The building would have five exhibition halls giving a net exhibition space of 569,000 sq. ft. and a total floor area of 934,000 sq. ft.

The Site

The site chosen near St. Pancras is at present occupied by the gas works—an area in need of redevelopment and one of the few in London strategically adjacent to main line and underground train services. It is also close by the Grand Union Canal, which in addition to road and rail, could be used for transportation of goods.

The whole site would be covered by a four-floor podium or pedestal area containing 4,500 car parking spaces. Four-lane flyovers would carry exhibition traffic over and into surrounding streets.

Entrance into the tower would be at basement level. Pedestrians from the stations would reach a huge underground concourse on moving travelators. Motorists would park in and on the podium and descend to the concourse via lifts and stairs covered by the six cones atop the podium roof.

Lorries would use a separate entrance and exit. Goods could either be placed on conveyors at the unloading bays, which would lead to lifts within the central core or, by coupling lifts together, whole lorries, large machinery and even locomotives could be hoisted to any level.

The Core

The concrete core would sink down to the London chalk beds 160ft. below ground level and would be 3ft. thick solid concrete walled and 128ft. in diameter. Above ground the core would taper to 12in. thick at the top where it would be 30ft. in diameter.

Door openings would be formed in the core onto each floor level.

Within the core would be banks of high-speed lifts and flights of stairs. From the basement to the top these would all be enclosed in fire-proof jackets of concrete. No point in the building would be more than 160ft. from any fire door. The lifts decrease in number towards the top and

it would be many overlapping segmental floors one above the other of different sizes and ceiling height (minimum 20ft.) which would decrease in diameter from the top of each hall to the bottom.

Banks of two-way escalators resulting in a spiral circulation pattern up and down the halls would link different levels.

The segmental floors would also be precast and would be carried at their perimeters by sloping, precast columns which would also support the perimeter of the main floor of the hall above rather like the branches of a tree rising from the trunk.

Lobbies, lavatories, cloakrooms, kiosks, air-conditioning and heating plant rooms, and kitchens to serve each hall would be housed at the base of these columns, within the cones supporting the columns from the core.

The Roof

The wigwam roof would be precast columns leaning against the core and sheltering a 154ft. diameter (St. Paul's Whispering Gallery is 112ft.) floor of cocktail lounges and bars surrounded by an open viewing platform. Also within the conical space would be concrete boxes cantilevered off the core and containing two cinemas, two conference halls, a banqueting hall and kitchens.

Above the roof, in the gold-painted finial, would be three floors of 16-seater, intimate dining rooms. At the very top would be a very draughty and very tiny open platform.

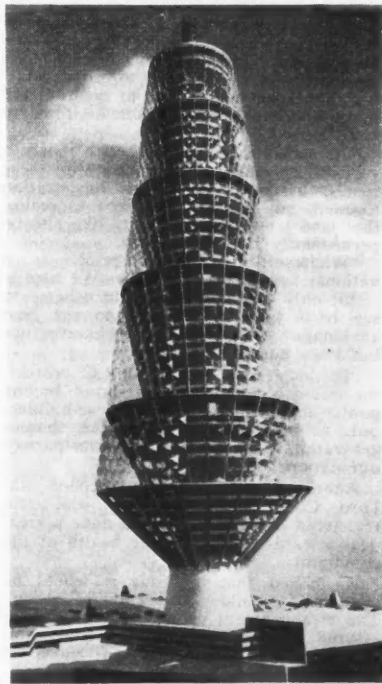
Glass Walls

Each of the five halls would be enclosed by a separate envelope of glass in the shape of a conical drum. The design uses a new type of glazing. The area glazed is over 14 acres, and with $\frac{1}{4}$ in. glass, it would weigh a total of almost 1,000 tons.

On the site, lengths of 5in. diameter steel tube would be welded into hexagons between 11ft. and 20ft. wide. For high strength and small tube size, these would not be welded flat but each component triangle would be at an angle up or down to its neighbour like a corrugated parchment lampshade and to create the vertical taper the hexagons in each course would be smaller than the ones beneath them.

In these huge drums there would be no conventional glass fixing. Longitudinally onto the outside of every tube would be screwed lengths of H-section neoprene (a new tough plastic) and into this would be snapped triangular sheets of $\frac{1}{4}$ in. actinic (sun filtering) plate glass. By tightening the screws along the neoprene a metal strip within it would press the plastic around the glass edge in a tight, weather-proof and durable grip.

Inside the building, the ceilings of every floor would be lined with translucent sheeting lit from behind to avoid glaring sources of light.



Model of "Crystal 61" project

would convey 11,500 people an hour at an average waiting time for any lift of 3½ minutes.

The inverted cone at the base of the tower would enclose five floors of offices for use by exhibition officials and for private letting.

Exhibition Halls

Five separate exhibition halls would be contained within the five glass drums of the tower. They could be used individually, or collectively as one, or in groups. Each would be divided from the others by a fire-stopping barrier floor of restaurants and bars on the perimeter of which would be an open terrace.

Each hall would have a main circular floor of precast concrete beams and slabs projecting from the central core. Above

HIGH-SPEED BUILDING DEMONSTRATION

1,800 sq. ft. Structures Erected in 1½ Hours

A BUILDING, large enough to accommodate an office staff of 80, was erected on a demonstration site recently at South Bank, London, S.E.1, by Terrapin, Ltd., Haddon House, Fitzroy Street, London, W.1.

Erected on simple pad foundations which had already been completed, the building consisted of nine Terrapin Pack Building Units, each with an overall floor area of 24ft. by 8ft. 3in.

approximately, an internal height of 8ft. from floor level to under beam, and 8ft. 10in. from floor to ceiling soffit, providing a structure with an overall floor area of 75ft. by 24ft. (1,800 sq. ft.).

At 9.30 a.m. six men commenced to off-load pack units comprising roof section, end walls and floors. The first unit was off-loaded by crane on to prepared foundations, the roof was raised by the crane and the walls pivoted at the roof beam, folding outwards on rollers to vertical

positions. The rollers were then removed and the walls slotted and fixed to floors. After the gable end assembly had been fixed, off-loading of remaining units and positioning followed in sequence.

At 10.45 a.m. the structure was erected ready for inspection. Dismantling commenced half-an-hour later, and by 1.30 p.m. the site had been cleared.

£1.3M. ROAD LINK APPROVED

Hampshire roads and bridges committee have approved a scheme for making a £1,350,000 twin-carriageway link between the main road to the West Country and Bournemouth via Hurn Airport.

BIG INCREASE IN NUMBER OF REGISTERED HOUSE-BUILDERS

But N.H.B.R.C. Chairman Warns Against Complacency

LAST year more builders became registered and houses were being certified at a higher rate than ever before, stated Dr. J. Greenwood Wilson, chairman of the National House-Builders Registration Council, at the Council's annual luncheon in London last week.

He said that well over one third of all house-builders in the country were now voluntarily registered; the Council's staff of technical officers, inspectors and supervisors continued to increase in number and was well distributed over the whole of the country; nearly 25,000 houses were at present in course of construction under the scheme; every house, flat or maisonnette was inspected a minimum of five times while being built—the actual average number of inspections over the past year being over nine; more than 3,000 houses were being certified every month.

Sub-standard Danger

"This is a record of which we are proud, but we are by no means satisfied yet," stated Dr. Greenwood Wilson. "Jerry-building of the more blatant pre-war type is mercifully a thing of the past. But there is perhaps a more insidious danger, that of sub-standard house-building which still exists in every area. This leaves no room for complacency.

"Our aim is to make the existence and value of the National House-Builders Registration Council known to every potential purchaser throughout the country, and to convince every house-builder not yet registered that he should be so.

"We intend to ring the death-knell of sub-standard building and to eliminate the disillusionment, the mental and financial distress and the ill effects on health which have been the lot of unfortunate house-purchasers in the past. We shall not be satisfied until this has been achieved.

"A fund has now been established to publicise the service as widely as possible. This effort will reinforce the existing trend for more house-builders to become registered, for more houses to be certified, and for more members of the public to insist on our Council's Certificate when they are buying their houses.

Land Shortage

"In conclusion, there has recently been renewed discussion in the Press on the land shortage and increasing prices. These are matters of vital interest to people wanting their own homes, not to mention the house-builders whose business it is to build these homes.

"As a medical officer of health it is not part of my duty to comment on these issues. As chairman of this Registration Council, however, I am forced to realise that land is now a commodity likely to be permanently in short supply.

"Whatever its market price, as a national asset it is priceless. We owe it—not only to ourselves but to others—to see it is used wisely and to the best advantage. Whatever and wherever we build we must build well.

"In this respect the N.H.B.R.C. protects the interests not only of the house-buying public and of all reputable house-builders but, as most houses last more than a generation, it also protects a vital part of our national heritage."

Another speaker at the luncheon was Lord Cohen of Birkenhead who said registered house-builders had done a great deal towards advancing the health of the community.

He hoped that one day it would be statutory for builders to become registered. The establishment of a register not only assured the public of professional competence, but also ensured that those on the register realised their responsibilities to the public.

MINISTER AUTHORISES BOROUGHBRIDGE BY-PASS

£1,600,000 Direct Labour Project

THE construction of a four mile by-pass to relieve congestion on the Great North Road at Boroughbridge in Yorkshire at an estimated cost of £1,600,000 has now been authorised by the Minister of Transport. As reported in *The Contract Journal* on June 8, this work will be undertaken by direct labour by North Riding County Council which is the agent authority.

Part of the progressive modernisation of the Great North Road, the by-pass will leave the trunk road about a mile south of Boroughbridge and, passing to the west of the town, will rejoin A.1 about 1½ miles north of Kirby Hill. It will connect with dual carriageways, existing or under construction, which extend for several miles to the north and south.

At present the road through Boroughbridge, which is a traditional staging post for travellers on the Great North Road, includes two narrow bridges over waterways and a railway bridge with sub-standard headroom.

Flyover junctions, with connections to the existing road into the town, will be built where the by-pass passes beneath the Knaresborough-Boroughbridge Road (B.6166) and the Boroughbridge-Ripon Road (B.6265). There will be no other connection with any side roads.

In addition to these two junctions, seven other bridges are to be built.

The new by-pass will cross the River Ure, its tributary the River Tutt and the

railway, as well as two minor roads near Roecliffe and at Langthorpe.

Two other minor roads, Aldborough Gate and Highfield Lane, will be carried over the by-pass.

Steel and Concrete

The bridge over the River Ure will have welded steel girders carrying a concrete deck, supported by stone-faced abutments and piers. It will have a main span of 140ft. and two side spans of 57ft. 6in. and careful attention has been given to securing an elevation with clean and simple lines. The design has been approved by the Royal Fine Art Commission.

The remaining bridges, except for the small bridge over the River Tutt, will have steel and concrete superstructures and masonry-faced substructures.

The bridges over the by-pass will have spans of 88ft. or 96ft. and bridges with spans of 42ft. will carry the new road over existing highways.

The county surveyor of the North Riding County Council is Mr. R. Sawtell, A.M.I.C.E.

R.I.C.S. QUANTITY SURVEYORS' COMMITTEE

The following have been elected officers of the Quantity Surveyors' Committee of the Royal Institution of Chartered Surveyors for the session 1961-62: Chairman—Mr. J. G. Osborne; vice-chairman—Mr. E. P. Stewart, C.B.E.; honorary secretary—Mr. J. A. Burrell.

Late Construction News

SHEFFIELD HOUSING CONTRACTS.—Sheffield Corporation have been recommended to place contracts for housing at Gleadless Valley Estate, as follows: 86 dwellings and 45 garages—H. Dernie and Sons, Ltd., Sheffield, £212,802; 112 dwellings and 25 garages—J. W. Sivil, Ltd., Sheffield, £283,889.

SINDH RIVER BRIDGE.—The contract for the construction of an 11-span, 1,080ft.-long bridge over the Sindh River in India has been awarded to Gammon India, Ltd., a member of the Gammon group of companies. The bridge, which will link the cities of Gwalior and Jhansi, will be founded on 85ft.-deep concrete wells.

£149,722 WALSALL DWELLINGS.—Subject to Ministry approval, Walsall B.C. have been recommended to accept the £149,722 tender of F. A. and H. Taylor, Walsall, for 74 houses, six bungalows and 34 garages at Darlaston Road site.

LEICESTER SITE DEVELOPMENT.—In connection with the proposed northern area development scheme, Leicester City Council have been recommended to accept tenders for various works, as follows: Construction of a flood relief course, improvements to brook, and construction of a culvert under Outer Ring Road—Turiff Construction (Warwick), Ltd., £238,621; pumping station sub-structure—A. E. Farr and Co., Ltd., Westbury, Wilts., £56,873; roads and sewers on proposed housing estate and on site for industrial development, and main outfall sewer south of the flood relief course—Turiff Construction (Warwick), Ltd., £287,964.

NEW POLICE STATIONS.—Contracts have been placed by the Metropolitan Police with Robert Hart and Sons, Ltd., London, S.W.1, at £136,408, for erection of a sub-divisional police station at Uxbridge Road, London, W.12, and with W. H. Gaze and Sons, Ltd., Kingston-upon-Thames, Surrey, at £114,283, for a similar building at Church Street, Epsom, Surrey.

NEWCASTLE UPON TYNE SWIMMING BATHS.—The £233,845 tender of John Twinn, Ltd., Cockerham, Cumberland has been recommended to Newcastle upon Tyne City Council for acceptance for erection of the Montagu Baths, comprising large and small swimming baths, public laundry and slipper baths.

BLACKPOOL HOSPITAL BLOCK.—Subject to approval of the Ministry of Health, Manchester Regional Hospital Board have been recommended to place a contract with F. Parkinson, Ltd., Blackpool, at £162,582, for erection of a new ward block at Victoria Hospital, Blackpool.

£462,684 WILLESDEN FLATS.—Willesden B.C. have been recommended to accept the £462,684 tender of Tersons, Ltd., London, N.3, for erection of 80 flats in a 17-storey block and six maisonnettes, clinic, day nursery, etc., at Kilburn Square redevelopment. The Council have also been recommended to place a contract with Percy Bilton, Ltd., London, W.5, for erection of an office block, at £272,312.

CHESTER SEWAGE DISPOSAL.—The £154,891 tender of Holst and Co., Ltd., Watford, Herts., has been recommended to Chester City Council for acceptance for construction of water retaining tanks, etc., in connection with Stage 1 of the extension of Sealand Road sewage disposal works.

DAGENHAM MULTI-STOREY FLATS.—Dagenham B.C. have been recommended to seek Ministry approval to the £111,322 tender of Geo. Wimpey and Co., Ltd., London, W.6, for a block of 11-storey flats at Rainham Road South.

CAMBRIDGE UNIVERSITY BUILDING.—The contractors for erection of a new building for Fitzwilliam House, Cambridge University, are Johnson and Bailey, Ltd., Cambridge, and the estimated cost is £250,000. Denys Lasdun and Partners, London, N.W.1, are the architects, and Widnell and Trollope, London, S.W.1, are the quantity surveyors. The structural consultants are Ove Arup and Partners, London, W.1.

SCHOOL BUILDING ECONOMY

Advantage of Local Authority Pooling Scheme

THE Ministry of Education's Building Bulletin No. 19, "The Storey of C.L.A.S.P." (H.M.S.O. Price 5s.) describes the development and present functioning of C.L.A.S.P.—The Consortium of Local Authorities Special Programme.

The C.L.A.S.P. system is a method of building based on the rapid assembly on the building site of standardised factory-made components. As with other post-war prefabricated systems the principal aim has been to produce a system of standardised parts which could be assembled in a variety of ways to meet the requirements of different types of buildings and sites. The distinctive feature about C.L.A.S.P. is that it is the first system that has been developed and controlled by a voluntary association of local and public authorities for their own use. *Buildings in C.L.A.S.P.*

Mostly schools—but has also been used successfully for offices, fire stations, ambulance stations, welfare buildings, libraries, etc.

Members of C.L.A.S.P. Consortium

Nottinghamshire County Council, Derbyshire Council, Yorkshire West Riding County Council, Durham County Council, Glamorgan County Council, Warwickshire County Council, Lancashire County Council, Leicester County Borough, Coventry County Borough, Gateshead County Borough, War Office, Ministry of Education and Scottish Education Department.

Size of Programme in C.L.A.S.P.

Notts. programme alone ...	£800,000
C.L.A.S.P. 1958/59 ...	£2,500,000
" 1959/60 ...	£3,000,000
" 1960/61 ...	£4,500,000

" 1961/62 ...	£7,000,000
" within next two years	£10m.

Organisation of Consortium

No constitution or standing orders. Informal meetings of elected representatives (once a year) and chief officers (quarterly) decide policy. Its working party of architects meets monthly to organise details of programme, arrange tenders for C.L.A.S.P. components and allocate development work. Individual authorities design, invite tenders for and supervise own buildings but use components ordered for whole Consortium by the working party.

Economic Advantages

By standardising the requirements of its members, and by inviting tenders and placing orders for the largest quantities of factory-made components required for the total building programme, the Consortium has strengthened the purchasing power of its members, in some cases effected a reduction in factory production costs and obtained better value for money.

Examples of some price reductions due to the increase in size of the C.L.A.S.P. building programme (in spite of a general rise in the price of building materials):

	Notts. Consortium Programme 1960-61	1957-58 more than £800,000	£4½m.
Concrete cladding unit	76/2	66/-	
Upper floor covering (per sq. ft.)	45/9	38/2	
Vitreous enamel panels (per sq. ft.)	8/11	6/4	
Internal flush doors (per sq. ft.)	7/5	5/11	

These and similar reductions in price have enabled Nottinghamshire County Council to build C.L.A.S.P. schools of high standard, providing more teaching area

than the national average, at a lower cost per square foot than the national average, e.g.

	In 1959/60	Cost per sq. ft. Notts.— C.L.A.S.P.	National Average
Primary schools	68/-	72/-	
Non-selective Secondary Schools	67/-	72/-	

Other Advantages

The period of construction of C.L.A.S.P. schools is shorter than for schools in traditional construction.

C.L.A.S.P. buildings require less of the scarce types of craft labour on site.

C.L.A.S.P. buildings do not require costly preventative measures when built on sites liable to mining subsidence. Their structure is pin-jointed and rests simply on the ground without normal foundations—so that it can bend and follow ground movements.

Export of C.L.A.S.P.

Much interest has been shown abroad in the C.L.A.S.P. system since the success of the British primary school exhibit in C.L.A.S.P. at the Milan Triennale last year. Agreement has been reached for the use of C.L.A.S.P. in West Germany on payment of a percentage of the gross income to the Consortium. A similar agreement is about to be concluded with Italy, where the first school is due to start in September. Use in these Common Market countries will yield royalties to the Consortium members and facilitate the export of some building components.

Other Consortia

The success of the C.L.A.S.P. Consortium in the U.K. and its purchasing arrangements have shown the economic advantages to be gained by other local and public authorities in voluntary association on similar lines to control and systematise their building methods and components. It has already led to plans for the formation of a second consortium based on Shropshire County Council.

ROAD IMPROVEMENTS IN SURREY

Realignment of the A.30

REALIGNMENT of the A.30 over a 1½-mile length at Osnaburgh Hill, Camberley, to give a full 33ft. wide carriageway, is nearing completion and will appreciably ease the flow of traffic through the town on this main trunk to the South West.

Two brick faced mass concrete retaining walls have been constructed as a separate contract for the Surrey County Council by Aubrey Watson, Ltd., the two sections of 500ft. and 380ft., being set back to provide an approach to the Parish Church. The walls have a batter of 1 in 12 and have been faced with a brick specially selected to blend with local styles.

Other plans for the removal of such obstructions as Cricketers Bridge are awaiting Ministry approval and may be affected by the line of the future London/Cornwall motorway which runs approximately parallel to and 1½ miles to the south-east of the existing A.30 in the Surrey section.

During the excavations to accommodate the widening at Osnaburgh Hill the difficulties accompanying road improvements were amply demonstrated by the existence of a complex pattern of services cables and ducts, these running both parallel and at right angles to the road. In particular, considerable care was required in order to prevent disturbance to high tension and G.P.O. cables, gas and water mains and other services. In some sections, the grade was required to be maintained within small cages formed by the cables.

The excavations are being carried out with a J.C.B.4 hydraulic excavator, on hire from Dragon Plant Hire, Ltd., Guildford, and on completion, the new carriageway

will have a 4½in. black top wearing course on a dry lean mix 20:1 concrete base.

Further improvements in the Surrey section of the A.30 are the recent completion of a new roundabout at Bagshot Hill whilst the existing roundabout at the Runnymede Bridge is being reshaped to

accommodate the new traffic pattern which will arise when the bridge is completed in September. The contract for the new roundabout, which is being carried out by Wilson Lovatt and Sons, Ltd., also includes a short section of approach road to the new bridge. Long term provision is being made for the eventual construction of a flyover at this site.

The county engineer for the Surrey County Council is Mr. D. S. Samuel, M.I.C.E., M.I.Mun.E.



Excavations in progress with a JCB.4 excavator

Men and Movements

MR. ERIC COLWILL STRATHON, F.R.I.C.S., F.A.I., a senior partner with the firm of Gerald Eve and Co., has been elected president of the Royal Institution of Chartered Surveyors. In the course of his career as a member of the Institution, which he joined in 1929, Mr. Strathon has been chairman of the London (North West) branch, a member of several standing committees and chairman of the Parliamentary Committee from 1956-60. He was elected a member of the Council of the Institution in 1951, a vice-president in 1958 and the senior vice-president in 1960.



E. C. STRATHON

Mr. Alfred Wilcock, A.M.I.E.E., Dip.M.I.E.S., who has been assistant director of the British Lighting Council since 1959, becomes director next month, following the retirement of **Mr. W. J. Jones**. Mr. Wilcock joined the E.L.M.A. Lighting Service Bureau in 1951 as regional engineer for the north west of England and north Wales, and continued in this position on the formation of the British Lighting Council in 1958.

London Transport have announced that **Mr. H. Nunn** has been appointed a principal executive assistant in the office of the Civil Engineer (General). Mr. Nunn joined London Transport in 1956 and has been in charge of the contracts and statistics section of the Chief Civil Engineer's department since 1958.

The following appointments have been announced by Bowmaker, Ltd., Bournemouth: **Mr. B. L. Savage**, formerly general managers' assistant in London, becomes Birmingham area manager; **Mr. E. R. F. Gillett**, formerly Bradford branch manager, is appointed to assist **Mr. J. E. Hickinbotham**, joint general manager, at head office; **Mr. J. B. Davies**, formerly Slough branch manager, is appointed to assist **Mr. E. F. Pressland**, joint general manager at executive office, London; **Mr. O. S. Willis-Fleming**, formerly Oxford branch manager, becomes manager at Slough branch; **Mr. D. C. Byron**, formerly a representative at Truro, becomes manager at Oxford branch; **Mr. G. T. Snelgrove**, formerly sub-manager, has been appointed manager at Coventry branch; **Mr. B. D. Meddings**, formerly resident representative at Mansfield, becomes sub-manager at Bradford branch; **Mr. K. T. Smith**, is appointed resident representative at the new King's Lynn branch; and **Mr. W. A. Cavender**, formerly a representative at Nottingham, is appointed resident representative at Mansfield branch.

Mr. W. J. Vines, joint managing director of Berger, Jenson and Nicholson, Ltd., and vice-president of the Society of British Paint Manufacturers, has been appointed managing director of the International Wool Secretariat. His experience and advice will continue to be available to the Berger, Jenson and Nicholson group and he will remain a member of the parent board.

The first appointment announced by Attwood Technical Services, Ltd., a new British company formed to undertake economic research throughout the world, is that of **Mr. D. H. McNeile**, who joins as chief executive. Mr. McNeile has been with the United Kingdom Atomic Energy Authority for the past two years, the last 12 months of which he spent in the commercial branch.

Mr. R. B. Dales has been appointed group area manager for the East Midlands/East Anglia area, in succession to **Mr. J. R. Pulfrey**, who recently undertook the duties of sales manager, earthmoving (home). Mr. Dales joined the purchase department of Aveling-Barford, Ltd., when the company moved to Grantham in 1934. After four years as chief assistant to the director, spares and service department, he joined the Canadian subsidiary shortly after its inception in 1957, as divisional sales manager for Eastern Canada, a post he has relinquished to return to the United Kingdom.

Among passengers embarking recently on the "Queen Mary" for New York were **Mr. G. J. Coffey**, chairman of The Chicago Pneumatic Tool Company, and **Mr. M. A. Perrot**, a director of Edmund Nuttall, Sons and Co. (London), Ltd.

Mr. J. Holcombe has joined Bowmaker (Plant), Ltd., as Used Equipment Export Representative. Before joining the company, he spent a number of years with Blackwood Hodge and Savilles. Mr. Holcombe is based at Cannock and his activities are mainly directed towards the



J. HOLCOMBE

D. BOWMAN

European Continent. **Mr. Douglas Bowman** has joined the sales department of the company at Cannock. He is assisting the company's earthmoving representative, **Mr. D. M. Speight**.

The following have been appointed to the board of The Ruberoid Co., Ltd.: **Mr. T. Alison**, director of sales; **Mr. J. Grant**, B.Sc., A.M.I.Mech.E., director of development; **Colonel G. H. Hunter-Brown**, O.B.E., M.A., M.I.C.E., M.I.Mech.E., director of contracts; and **Mr. W. M. Parsons**, B.A.(Cantab.), director of production.



Part of the audience at the recent one-day conference organised by the National Federation of Plastering Contractors

After serving the Leyland Motors group for 51 years, **Mr. H. J. Camplin** has relinquished his position as southern divisional manager of the group's sales organisation. He will continue to be a director of Albion Motors, Ltd., Glasgow.

Mr. T. Lynch, B.Eng., A.M.I.C.E., has joined the board of B. Whitehouse and Sons, Ltd., Birmingham, as construction director. Mr. Lynch moves to the company, in which Holland & Hannen and Cubitts (Great Britain), Ltd., last year acquired a controlling interest, from Cubitts' north east area office at Gateshead - on - Tyne, where he was manager. Joining Cubitts in 1950, Mr. Lynch worked as contract supervisor on various construction projects in Lancashire, Cheshire and North Wales and became manager of the North East area in 1954.



T. LYNCH

Mr. Hedley J. Meek, who has been general manager of Nevill Long and Co. (Boards), Ltd., and Boards and Plastics, Ltd., for a number of years, has now been appointed chairman and managing director. **Mr. John D. Rose**, hitherto sales manager, is now general manager. **Mr. Andrew W. Fleet** controls the new storage, wharfing, transport, cutting and bonding services. **Mr. John Stanley** is responsible for the sales department and **Mr. John Southwell** for contracts, shipping, claims and insurance.

Mr. Bernard C. Pyle, M.I.E.E., formerly assistant chief project engineer, Northern Project Group, Central Electricity Generating Board, succeeds **Mr. W. B. Shannon**, formerly assistant chief project engineer, Southern Project Group. **Mr. Douglas A. Pask**, V.R.D., A.C.G.I., B.Sc.(Hons.), A.M.I.E.E., A.M.I.Mech.E., A.M.Inst.F., Mem.A.I.E.E., formerly project engineer, Southern Project Group, has succeeded Mr. Pyle at the Northern Project Group.

MUNICIPAL

Sheffield City Council have been recommended to appoint **Mr. A. Holroyd** general manager of sewage disposal department. Mr. Holroyd at present holds a similar position a Wolverhampton.

The burgh architect and planning officer at Inverness, **Mr. J. Blackburn**, has been appointed borough architect at Worthing.

IMPORTANT RESEARCH INTO HOME-GROWN TIMBER

Wide Range of Investigations by D.S.I.R.

THE first phase of major investigations into the qualities of home-grown softwoods has been completed by the Forest Products Research Laboratory, D.S.I.R.

The results, summarised in the Laboratory's Annual Report,* cover a wide range of studies on Sitka spruce which forms a large proportion of the Forestry Commission's plantations and is now being sawn and marketed in considerable quantities. Data have been obtained on wood preservation, seasoning, woodworking properties and the strength and density of the timber. The Laboratory also investigated the pulp qualities of home-grown lodgepole pine, a comparatively unknown species of interest because it can be grown successfully on relatively poor land.

Research on home-grown timber has become an important part of the Laboratory's programme since it was intensified at the request of the Forestry Commission two years ago. And results will become increasingly valuable as forests in Britain yield more and more of their crop.

Following the re-definition of functions by the Council for Scientific and Industrial Research in 1959, the Laboratory is paying particular attention to the development of its relationships with the timber industries and trade associations. The Laboratory's Steering Committee, under the chairmanship of Dr. B. K. Blount (deputy secretary, D.S.I.R.), expresses the hope that it may be able to undertake sponsored research or development work for firms in the industry and emphasises that there is no lack of work waiting to be done.

Details of the Laboratory's research work during 1960 are contained in the report of Dr. A. C. Copisarow who was appointed director last November. They include:

Fibre Length

One object of the Sitka spruce investigations is to determine the effect of site factors on the properties of the wood. The results of work on timber drawn from six geographical regions of the United Kingdom indicate some relationship be-

tween fibre length and both geographical region and Site Quality (a term used by foresters for the productive capacity of a site). Further investigations are under way.

Seasoning

Seasoning can make or mar the quality of timber. It is important to know how far the defects that may develop in seasoning (notably splitting and warping) are due to conditions of growth.

A study of the seasoning properties of Sitka spruce has shown no significant difference between the final quality of the dried material from the six regions sampled. There was, however, some difference between the material from different sites in the same region and also from different trees.

Strength Properties

Variations in strength and density of Sitka spruce were studied on a fairly extensive scale to see if these properties were related to the region of growth or were associated with local site factors.

Research in Other Fields

Wood Pests

In the Entomology Section of the Laboratory, work on many pests has been carried out. Field observations of the death-watch beetle have continued at Westminster Hall, the Round Tower, Windsor Castle and in H.M.S. Victory. Studies were initiated on two Clerid beetles, which are predators of the death-watch and powder-post beetles.

The possibility of controlling death-watch beetle by gamma radiation treatment has been investigated. Blocks of oak sapwood containing active larvae were given dosages varying from 4,000 to 8,000 roentgens. Some beetles survived the 4,000 roentgens treatment and subsequently emerged and laid eggs but only a few of the eggs hatched. The stronger dosages (6,000 roentgens upwards) appeared to be fatal as no beetles emerged from the treated blocks.

Heating of Glued Joints

Experimental work on the influence of generator frequency on glue setting rates

is now at an advanced stage. With rapid setting techniques the adhesive becomes very hot before it cures and the accompanying drop in viscosity allows absorption by the wood, resulting in a starved joint. This can be overcome by altering the viscosity characteristics of the adhesive by adding flour to the glue mix before use. During the investigation it was found that an addition of 10 per cent. flour was sufficient to bring the strength of radio-frequency set joints up to or even above that of similar cold-set material.

In joints cured by transverse heating neither the generator frequency nor the setting time affect the seven-day-strength, but the moisture content of the wood can become important. This investigation shows, however, that the electrical constants of the wood-glue composite must change rapidly with frequency over the range 5 to 25 Mc/s.

Wood Preservation

Investigations into the pressure treatment of Baltic redwood drastically revise current opinion. They show that creosote can be impregnated into the timber much more deeply than is generally believed and also to a much greater depth than a water-borne preservative.

Further studies are being made to see if this is characteristic of other species of pine, but the work done so far has proved the suitability of redwood for high standard preservative treatment.

SOUTH-WESTERN MUNICIPALS' STUDY COURSE

This year's Dillington House Study Course of the Institution of Municipal Engineers—South-Western District, will be held at Ilminster, Somerset, from September 26-28.

The course, which will be officially opened by the president of the Institution, Mr. J. H. Melville Richards, will include the following lectures:

"Incentive Bonus Work", by J. A. Kenyon, M.I.Mun.E.; "The Computer as an Aid to the Municipal Engineer", by E. Bridgewater, B.A.; "Regulations and Traffic Control from the Police Point of View", by S. J. Chamberlain, D.F.C.; "Traffic Signal Engineering", by H. J. N. Riddle, A.M.I.E.E.; "Small Isolated Water Supplies and Sewage Treatment Plants", by G. Lloyd Ackers, M.I.C.E.; "Paints, Their Selection and Use", by D. W. Marshall.

HOUSE BUILDING COSTS RISE

Mr. C. R. Lawley, director of housing, Bilston, has told the Housing Development Committee that in 12 months there has been increases of between 21 and 32 per cent. in the cost of building six different types of dwellings.

Reporting on delays in building schemes, he said there was a national shortage of tradesmen, particularly on work for local authorities.

Most of the labour was being attracted to private and industrial building schemes where "really fantastic" wages were picked up.

MANCHESTER SEWAGE WORKS EXTENSIONS

Tenders Later This Year for £1m. Stage

Manchester City Council are at present undertaking a major extension scheme at their Davyhulme Sewage Disposal Works and tenders for the next stage of this scheme will be advertised later this year.

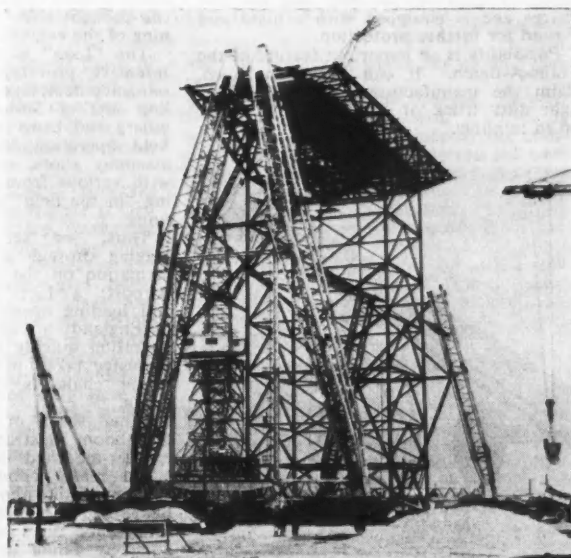
Works will comprise aeration tanks (88 35ft. square pockets), 12 113ft. diameter final tanks, return activated sludge pumping station and ancillary works. Cost will be of the order of £1 million.

Mr. R. Nicholas, C.B.E., is city surveyor.

ON the seashore at Dungeness, Sir Robert McAlpine and Sons, Ltd., are carrying out the civil engineering work for the Kent nuclear power station.

Pictured here is the Goliath crane with one leg at full height and the other leg partly assembled. This will be used for lifting the huge weights involved in the construction of boilers and pressure vessels. It will be capable of lifting and travelling with loads of 400 tons.

The Nuclear Power Group — of which McAlpine are a member company — have about 950 men on the site, most of whom are engaged on the civil engineering work involved.



Trade and Company News**UNCONVENTIONAL METHOD OF TREE STUMP REMOVAL**

AN unconventional method of tree stump removal has been introduced from the United States with the arrival of the Vermeer Pow-R-Chopper made in Iowa.

Basically the chopper or cutter consists of a large 24in. diameter disc wheel which rips the stump and root laterals into small chips and shreds to a depth of 12in. below ground level. The actual cutting is done by 24 hard-steel teeth of $\frac{1}{4}$ in. square section bolted to the wheel at different angles.

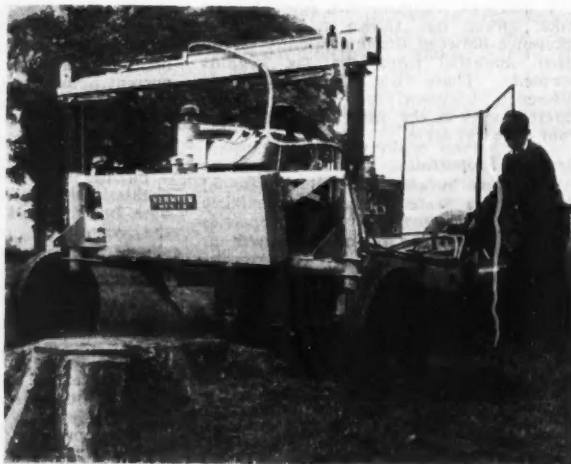
Once the machine has been positioned over the stump, movement of the cutting wheel is controlled by three hydraulic rams operated by three hand levers. The first lowers the wheel on to the edge of the stump, the second allows the cutting wheel to sweep smoothly from side to side, while the third inches the whole machine forward so that the wheel can take a further bite.

As the stump disintegrates the chips are thrown back under the rear of the machine where

they collect against canvas screens let down from the machine sides. Wire mesh screens protect the operator as he watches the wheel biting at the stump and controls it with his three levers. When the stump and root laterals are completely out, the chips will be either shovelled back into the hole or carted away and burned.

Stump Sizes

The machine can tackle a stump up to 33in. high above the ground, and a 4ft.



Machine chops out first root laterals of a 4ft. elm stump

diameter stump takes about hour and a half to remove, including the root laterals. The largest stump so far removed in the U.K. was a 15ft. diameter Beech (including root laterals) and took 10 hours to get out. The stump is removed to a depth of 12in. below ground level which is adequate for most purposes. All site-work is carried out by one semi-skilled operator.

Power Unit

The cutting wheel is chain driven by a four-cylinder 36 h.p. Wisconsin engine using petrol as fuel.

The machine is transported from site to site and from stump to stump by tractor or Land Rover. For road work the wheels on the machine swivel inwards reducing the track width from 9ft. to 7ft. 6in. Although the wheels have high speed bearings, the machine itself is unsprung and a road speed of not more than 20 to 25 m.p.h. is best.

The first machine was bought in 1959 by Mr. R. F. Weller of Weller's Plant Hire and after thorough testing under working conditions during which some 1,700 stumps were removed a second machine was recently imported. A third is now on order. The price of the machine described is approximately £1,850 delivered—a larger model is available, price £2,800.

Both machines are operating in Southern England and readers who would like the addresses where they can be seen working under site conditions should contact the sole agents, Weller's Plant Hire, Lovedean, near Portsmouth.

"BIRTH OF A LION"

A new 20-minute 16 m.m. Kodachrome film made for Priestman Brothers, Ltd., introducing the "Lion" $\frac{1}{2}$ yd. excavator was shown in London for the first time during the recent International Construction Equipment Exhibition. Resisting the temptation of trying to say too much in too little time and avoiding the clichés usually associated with commercial films of this type the producers have provided a first-rate little film of both instructional and entertainment value and no little selling power. The spot of Yorkshire dialect would probably, however, have been better left out!

Starting with a brief flash-back to the days of windmills, the repair of which was one of the main lines of business in the small engineering firm founded in 1870 by William Dent Priestman, the film quickly takes one into the heart of the Priestman organisation in which the "Lion" was born and developed and where it is now being manufactured on a full production basis.

The film combines shots of the factory itself, highlighting not only the modern machine tools but also the men who operate them, whilst other shots illustrate the thought that has gone into the planning of the engineering works.

The "Lion" is seen going through its intensive prototype testing (including a sequence depicting the "clonker"—a grueling sort of Stonehenge arrangement of pillars and cams which eclipses years of field operation into days), followed by assembly shots, culminating in machines with various front end equipments working "in the field" on a variety of applications.

Thus, we see a Lion dragshovel digging through a tough laminated rock formation on the site of a new Swedish Airport; a Lion crowd shovel digging and loading open-cast coal in the North of England; a Lion dragline on drainage operation quickly followed by a gruelling sequence taken in a Yorkshire quarry in which chalk is interspersed with flint strata.

Other shots of the Lion fitted with long boom illustrate its performance as a crawler-mounted lifting crane.

The main commentary of the English version of the film was done by Richard Baker and the French version of the film "Naissance du Lion" has a commentary done by Emile de Harven. Both were produced by Drayton Film Productions, Ltd.

PORTABLE DRY BATCH CONVEYOR CUTS OPERATING COSTS

A PORTABLE machine for transferring dry batch material from trucks to transit mix trucks at the pouring site is being produced by Koehring, Co., of California, Stockton, a division of Koehring, Co., of Milwaukee, Wis.

Use of the machine, which is known as the Ko-Cal Trans-A-Batch, results in less transit mix trucks being needed at the pouring site and dry batch trucks running back and forth from the transit mix plant, involving less initial capital investment in addition to lower operating costs. Because of its transportability, the equipment can be moved to several different pouring sites, fully utilising existing transit mix plants.

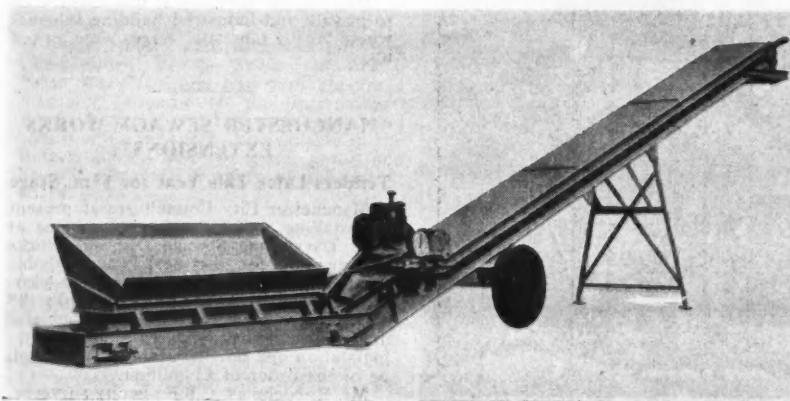
The machine consists of a 1 $\frac{1}{2}$ yd. hopper

for receiving the dry batches, a positive drive feed belt under the hopper, an inclined transfer belt, a water meter and piping assembly, and an air-cooled engine with electric starter and clutch.

A drive belt, located under the receiving hopper, conveys dry batches to the inclined transfer belt, which, in turn, transmits material up into the transit mix trucks.

The transfer belt is completely covered to prevent wind from blowing the dry batch material off the belt, and the discharge end is equipped with a hood and shroud for further protection.

Portability is an important feature of the Trans-A-Batch. It can be taken down, claim the manufacturers, transported by light duty truck or batch truck, and set up in minutes.



Ko-Cal Trans-A-Batch

Trade and Company News**CAT D9G HAS 15 PER CENT. H.P. INCREASE
OVER PREDECESSOR****Advances in Power Train and Final Drives**

COMBINING a 15 per cent. horsepower increase over its predecessor with improvements in the power shift transmission to boost production capability, the new Caterpillar D9G Tractor was demonstrated at the International Construction Equipment Exhibition.

The D9G incorporates major advances in power train and final drives and a re-designed track roller frame. Its overall versatility and adaptability, state the manufacturers, is enhanced by the introduction

engine lugs thereby increasing torque available. Controlled turbocharging also develops quicker acceleration by boosting air flow at part load conditions. After-cooling of intake air makes it more dense, increasing the weight of air going to the cylinders. To accept the greater volume of air, the twin dry-type air cleaners are now larger, each with a diameter of 13 inches.

Development of a slip clutch for the fan drive also helps increase usable horsepower, reducing the power absorbed in

Longer service life results from the new, 18:1 reduction of the planetary final drives. The greater reduction lowers torque loads on all other parts of the power train. Final drive housings now are sealed with the exclusive Caterpillar metal-to-metal, face-type, floating ring seals which are similar in design to those incorporated in the lifetime lubricated rollers.

Spring engaged and hydraulically released, new oil-cooled steering clutches require no adjustments. Hydraulically boosted brakes also are oil cooled. Both steering clutches and brakes are cooled and lubricated by a common oil system which also includes the torque divider, transmission and bevel gear, thus permitting one-point servicing.

To provide greater strength, the basic box section of the track roller frame has been deepened 3in. and widened by 4in. A newly designed fabricated diagonal brace replaces cast braces and the track guiding guards are lower and closer to the track links to give better protection.

Three new, hydraulically boosted cable controls are available for the D9G. All have larger clutch, brake and drum capacities. Live-powered from an auxiliary drive shaft, all three give faster response because of higher line speeds. The three controls are the rear mounted, double drum 129 cable control for scraper operation; the single drum, rear mounted 129 for bulldozer work and the front mounted, single drum 119, also for the bulldozer. The double drum unit can easily be converted for bulldozer control, and the single drum 129 can be expanded to a double drum unit.

Nine separate arrangements of hydraulic controls, from three basic units, also are available. The 192 hydraulic control is a completely new fender-mounted unit, with either single valve for the No. 9 ripper or double valve for the ripper and a tilt cylinder. The 193 hydraulic control is front mounted and has a total of six possible arrangements. The 191 hydraulic control is a single valve, fender mounted unit for tilt cylinder control on cable controlled bulldozers.

Attachments for the D9G include the No. 9C bulldozer with either single cylinder hydraulic or cable control. The No. 9C is a frame mounted cushioned bulldozer of tractor width either for pushing-loading applications or for normal dozer work. A cushion push block is available for the D9G for tandem pushing applications. The No. 9 Ripper, featuring five position clevis and quick-change shank and tip pin retainers, permits high production at low cost. Three bulldozers, the No. 9A, No. 9S, and No. 9U, are available with either hydraulic or cable controls.



The D9G tractor at Crystal Palace

of three new hydraulically boosted cable controls and arrangements of three different hydraulic controls.

The tractor has 385 flywheel horsepower, the increase resulting primarily from a system of controlled turbocharging and after-cooling of intake air. Among the advantages of controlled turbocharging are the provision of maximum air flow over a wide range of engine operations and a quick response to the need for more air as the

driving the engine fan by as much as 30 per cent.

A new "output" design torque divider unit combines a single-stage torque converter and planetary gear set to give the efficiency of direct drive transmission and the anti-stall and torque multiplication of a torque converter. Single lever, "finger tip" shifting permits rapid selection of three gears forward or reverse. This power shift transmission is standard equipment.

SMITH'S OVERSEAS SALES CONFERENCE

DELEGATES from no fewer than 18 countries recently assembled at Rodley, nr. Leeds, for the opening of a three-day export sales conference at the factory of Thomas Smith and Sons, (Rodley), Ltd.,

The conference opened with speeches of welcome from Mr. Arnold Carr (chairman) and Mr. W. H. Sharp (managing director). Mr. Carr welcomed the delegates and said that both delegates and company officials would derive great benefit from the interchange of ideas and information. He mentioned the Prime Minister's slogan that "it's fun to export" and wondered if the Prime Minister quite realised that it also meant a tremendous amount of hard work not only here in Britain but on the part of all the agents in various overseas countries.

Mr. W. H. Sharp said Smiths were tremendously keen on exports and did, in fact, regularly export from 40 to 50 per cent. of their total production. He mentioned that approximately 50 per cent. of the production consisted of excavators

and the remainder of cranes of all types and capacities.

Immediately after the opening, the conference went to work, with a series of lectures on various machines by the company's technical experts, interspersed with personal reports from overseas delegates and with demonstrations, in the factory and yards, of actual machines, including cranes and excavators of various types and capacities.

Included in the programme was a talk on the electrical overhead cranes manufactured by Thomas Smith's associate company, John Smith (Keighley), Ltd.

COMPANY RESULTS

John Laing (Holdings), Ltd.—Group profit for 1960, £1,484,547 (£1,449,921). Net profit £762,301 (£655,129). Final dividend 5 per cent., making 10 per cent., against a total equal to approximately 9.1 per cent. for 1959, adjusting for a one-for-ten scrip issue. A further one-for-ten free issue is also proposed.

Henry Boot and Sons, Ltd.—Group net profit for 1960, £260,224 (£238,526). Dividend 40 per cent. (same).

**MANUFACTURE OF TRUSCON
UNITS IN TRINIDAD**

Arrangements have been concluded for the manufacture of Truscon precast concrete floor and roof units in Trinidad by Furness, Withy and Co., Ltd., Building Department, Port-of-Spain. The territories served will include St. Lucia, Antigua, Barbados and British Guiana.

The units are being manufactured under licence from Truscon, Ltd., London, S.E.1.

● Trade and Company News continues on page 1693. Subsequent articles include Fewer Complaints to Alkali Inspectorate in 1960 (p.1697); Talking of Safety, by "Dragee" (p.1698); Opportunities in the Civil Engineering Contracting Industry (p.1699); The Work of the Building Advisory Service (p.1700); Thermo-Nuclear Research Laboratory Under Construction (p.1701); Solartron Factory Development (p.1703).

Current Constructional Activities

PROJECTS • CONTRACTS • AWARDS

THIS editorial feature provides readers with a comprehensive news service covering forthcoming private and public construction work. Commencing on this page information is given concerning future projects followed by details of tenders being invited. In the third section will be found news of tenders recommended for acceptance, tenders accepted and contracts awarded. Attention is also drawn to the advertisements covering contracts and appointments appearing in the front part of the *Journal*.

BUILDING AND DECORATING (See also Housing Schemes)

Acton, Middx.—Huckle and Durkin, 30 Queen Anne Street, London, W.1, are the architects for additions to factory at Acton, for Callard and Bowser, Ltd.

Aldershot, Hants.—North-East Hampshire Area Planning Committee have approved schemes for a youth centre at 207-211 High Street and a bowls pavilion at the bathing pool for B.C.

Co. Planning Committee recommended to approve plan for demolition of a grocery shop and adjoining garage premises at Birchett Road and the erection on site of a petrol filling station and showrooms for Auto Services, 24 Birchett Road.

Aycliffe, Dur.—A new Crown Post Office is planned at Aycliffe and work is expected to start within the next two years.

Barnsley, Yorks.—B.C. have submitted to the Ministry a programme of welfare schemes for inclusion in the 1961-62 programme providing for a residential home on the St. Helens estate at a cost of £45,000, with an additional £6,500 for furnishing, and a residential home in Gawber Road.

Billingham-on-Tees, Dur.—British Titan Products, Ltd., are planning extensions to their works.

Bishop Auckland, Dur.—C.C. have approved a revised scheme for additions to Junior Mental Training Centre. Estimated cost £8,500.

Bury St. Edmunds, Suffolk.—B.C. to prepare plans and invite tenders in due course for the modernisation of 77 houses.

Carlisle, Cumb.—City Council recommended to approve scheme for adaptations at the Scotch Street end of King's Hall to provide coffee bar lounge, etc., estimated cost £3,800; apply for sanction to borrow £135,100 for extensions to Harraby Secondary School; proceed with the preparation of plans for the adaptation of 36 Scotch Street as an extension to the market cafeteria.

Johnston and Wright, 13 Castle Street, are the architects for proposed offices in Lowther Street, for Royal Insurance Co., Ltd., and a warehouse in Metcalfe Street for Oliver and Snowdon, Ltd.; Eden Construction Co., Ltd., English Damside, are seeking planning permission for the erection of offices, garaging and storage buildings to provide a contractors' depot in Currock Road.

Darlington, Dur.—Welfare Committee have approved plans for erection of a new handicrafts centre at junction of Yarm Road and Hundens Lane. Estimated cost £12,966.

E. Lawson, Ltd., 27 Victoria Road, propose converting the Empire Cinema, East Street, into filling station, motor showroom, workshop and offices.

Plans are being prepared by Cordingley and McIntyre, Owengate, Dur., for additions to a factory on Aycliffe trading estate.

Doncaster, Yorks.—J. R. Mitchell and Co., Ltd., Havenside, Grimsby, are to erect a new builders' merchants' depot at Tickhill Road, Balby. Final contract for development has not yet been let and starting date not yet decided. Estimated cost £12,000.

Gosforth, Northumb.—Alterations are proposed to St. Nicholas' Hospital to provide improved accommodation for sick female patients, for the Newcastle Regional Hospital Board.

Gosport, Hants.—B.C. recommended to prepare plans and invite tenders for the erection of a club building at Lee Clifflands.

Hexham, Northumb.—It is proposed to spend £25,000 upgrading two wards at General Hospital, for Newcastle Regional Hospital Board.

Kidderminster, Worcs.—B.C. recommended to approve the erection of one block of five garages at York Street. Estimated cost £900.

Lambeth.—B.C. recommended to appoint Wm. C. Inman and Partners, 7 New Square, London, W.C.2, as quantity surveyors for the erection of a pavilion at Vauxhall Park.

Lanchester, Dur.—D. Brown, 10 Lambton Road, Jesmond, Newcastle upon Tyne, is the architect for laboratory at Ushaw College.

Leamington Spa, War.—B.C. recommended to proceed with scheme for the rehabilitation of 22 houses at Prospect Road; invite tenders for the erection of additional garages at Mason Avenue, and paving of existing garage area. Estimated cost £3,450.

B.C. recommended to approve plans for a mill industrial building at Queensway trading estate for Spa Rubber Co., Ltd.

Lincoln.—City Council are planning a new slaughterhouse and cattle market on a 7½-acre site near Boultham Park Road.

Middlesbrough, Yorks.—Corporation's Health Committee proposes health clinics at Beechwood and West Acklam.

E.C. approved plans for additions to Constantine Technical College to cost £988,000. Work will be carried out in three stages over a period of four years. Plans and estimates have been submitted to the M.E. for approval. The architects are Alison and Hutchinson, 4 Rothsay Terrace, Edinburgh. Work is expected to start next year.

Northallerton, Yorks.—Two new operating theatres and a boilerhouse are planned at the Friargate Hospital by Newcastle upon Tyne Hospital Board. P. H. Knighton, chief architect. Estimated cost £100,000.

North Riding.—C.C. to spend £11,000 modernising Leeming Bar highways depot; negotiating for sites at Guisborough and Saltburn for the erection of branch libraries.

North Walsham, Norfolk.—U.D.C. to prepare and submit to Ministry, for approval, plans for the erection of a shop with living accommodation at junction of Bradfield and Cromer Roads. Estimated cost £3,400.

Portsmouth.—Health Services Committee have approved plans for mental health premises at Eastern Road, Milton. Estimated cost £116,000.

Saddleworth, Yorks.—Ministry have approved, in principle, revised plans for modernisation of Uppermill Mechanics' Institute for U.D.C. Detailed plans are being prepared for submission to the C.C. Estimated cost £20,000.

Salisbury, Wilts.—City Council have approved the conversion of the former Odeon Cinema into a civic hall. Estimated cost £40,000.

Sunderland, Dur.—Plans are being prepared by S. W. Milburn and Partners, 9 Esplanade, for reconstructing shop premises at the junction of Roker Avenue and Dixon Square, for P. M. Hepinstall.

The Durham Diocesan Board of Finance are to erect a new church at the junction of Springwell Road and Sunningdale Road, Sunderland. The architect is Francis Johnson, 16 High Street, Bridlington.

J. B. Bowman, Franklin Road, Peterlee, is the architect for Ebenezer Chapel at Westbury Street.

Tynemouth, Northumb.—Libraries Committee have approved sketch plans for a branch library at Buttermere Road on the Marden estate.

Health Committee is considering the erection of a mental health centre and a report is to be prepared on suitable sites; Council to purchase property in connection with stage five of its North Shields East End redevelopment scheme.

Warminster, Wilts.—U.D.C. have granted E. J. G. Morgan, Ltd., Frome Road, Trowbridge, permission to develop a site between 36 and 39 George Street for shops and maisonnettes.

FENCING

Darlington, Dur.—B.C. recommended to approve the erection of a high fence around the open space adjoining the railway near the Firth Moor estate. Estimated cost £780.

GAS AND WATER SUPPLY

Kidderminster, Worcs.—B.C. recommended to approve the laying of an additional 9in. diameter water main to serve industrial

development on the west side of Stourport Road. Estimated cost £1,300.

Kidderminster, Worcs.—Co. Health Committee have approved R.D.C.'s scheme for the provision of water mains and sewers to serve Stone housing estate. Estimated cost £5,707.

Oswestry, Salop.—R.D.C. have approved, in principle, outline scheme for the provision or improvement of water supplies to Morton Sweeney Trefonen, part of Sychtyn, Cefn Blodwel and Llanyblodwel. Estimated cost £196,000.

Samford, Suffolk.—R.D.C. recommended to approve, subject to Ministry and C.C. approval, scheme for extending water main in Askins Road, East Bergholt.

HARBOURS, PIERS AND SEA DEFENCE WORKS

Redcar, Yorks.—B.C. recommended to spend £56,000 on the provision of groynes to retain the sand on Redcar beach.

HEATING AND VENTILATING

Maidstone, Kent.—B.C. recommended to apply for sanction to borrow £2,700 for the provision of a hot water system and wash-basins in 24 aged persons flats at Dickens Road and 12 at Quarry Road.

HOUSING SCHEMES

Ayr.—B.C. have approved plans for the replacement of prefabs at Braehead. The scheme includes 163 three-apartment, 163 four-apartment cottage-type houses and 48 two-apartment flats.

Blaydon-on-Tyne, Dur.—U.D.C. are to erect houses on 55 acres of land west of Lilley Terrace, Rowlands Gill. Work will be carried out by direct labour.

Bury St. Edmunds, Suffolk.—B.C. to invite tenders (subject to planning permission) for the erection of 49 houses at Westley estate.

Chipping Norton, Oxon.—B.C. propose the erection of a block of 14 flats at Burford Road.

Dorset.—Standing Joint Committee are to erect 15 flats at Poole, four houses at Swanage and four at Weymouth during the current year. Detailed plans have been prepared for the flats.

Farnworth, Lancs.—B.C. recommended to approve planning permission for erection of semi-detached bungalows between 9 and 18 Norfolk Drive for Frederick Morgan, 202 Bolton Road, Kearsley, and three blocks of four houses (12 in all) and site for lock-up garages at Darley Street for David Reid, 19 Fleet Street, Bolton.

Fleet, Hants.—North-East Hampshire Area Planning Committee have approved scheme for 24 old people's bungalows and a warden's house at The Briary, Reading Road, for U.D.C.

Co. Planning Committee recommended to approve outline application for the erection of 34 dwellings at Brookly Bridge, Avondale Road, for Boyd Gibbins, Ltd., 285 Romford Road, London, E.7.

Gosport, Hants.—B.C. recommended to submit to Area Planning Committee, for approval, plans for two blocks of 16-storey flats at Trinity Green.

Harpندن, Herts.—Tenders are soon to be invited for the erection of 10 houses and four cottage flats at Milford Hill, and 12 cottage flats at Tallents Crescent, Balforth South, for U.D.C.

Harrogate, Yorks.—B.C. recommended to approve scheme for the erection of a five-storey block of flats (30 flats in all), a block of garages, and a bungalow/lodge in Lancaster Road for James Miller and Partners, Ltd., Newmillerdam, Wakefield.

Hillsborough, Down.—W. B. Maxwell, 5 University Terrace, Belfast, 7, is the architect for 72 houses and garages at Culcavey Village for R.D.C.

Inverness.—Caledonian Builders, Citadel, Inverness, propose 60 houses at Lochardil. Estimated cost £200,000.

Fraser and MacDonald (Inverness), Ltd., 23 Kenneth Street, Inverness, propose 12 flats at Culduthel House, £30,000.

Kidderminster, Worcs.—B.C. recommended to approve plans for 24 houses and bungalows with garages at Lea Bank Avenue for Harris and Cooke, Ltd., Wood Street.

Leamington Spa, War.—B.C. recommended to approve, subject to conditions, plans for demolition of house and erection of three-storey block of nine flats with four lock-up

garages at 41 Brunswick Street for Blackburn Estates, Ltd., 21 Eaton Road, Coventry; detail plans for 31 houses, 12 flats (two-storey) and 14 lock-up garages at cul-de-sac off Stanley's Lane for Clarke Bros. (Leamington), Ltd., 34 Clarendon Street; outline application for demolition of existing houses and redevelopment of site with a three-storey block of nine flats at 14, 16 and 18 Brunswick Street and 37 Charlotte Street for The South Leamington Co., Ltd., 42 Warwick Street.

Monmouth.—B.C. recommended to approve plans for the erection of flats and maisonnettes at Brook estate.

Newbiggin, Northumb.—The Homeville Co., Maidenhead, Berks., are planning the erection of about 50 houses on the Moor site, for U.D.C. The Homeville Co., will prepare the site, but it is expected that the actual erection of the houses will be let to another firm. The consulting engineer for the roads and sewers, etc., is E. G. Lediard, 4 Eldon Square, Newcastle upon Tyne.

Newcastle upon Tyne.—Town Planning Committee have approved a scheme for the erection of a 13-storey block of luxury flats on the edge of Newcastle Town Moor, for Greensitt Brothers, Nixon Street, Newcastle upon Tyne. Architects are R. Turley and Associates, Jesmond Road, Newcastle upon Tyne. Estimated cost £250,000.

Sawbridgeworth, Herts.—U.D.C. have approved in principle scheme for the erection of Phase 10 of Bullfields estate, comprising 41 dwellings and 36 garages at Lawrence Avenue and Reedings Way.

Sutton and Cheam, Surrey.—B.C. recommended to approve detailed sketch plans for the erection of three terraced houses facing the access lane from Park Lane and a detached bungalow near the proposed main entrance to the depot from Tudor Close, Cheam Park; sketch plans for eight flats and 12 garages at 27 Benhill Wood Road, Sutton.

Tynemouth, Northumb.—Borough Engineer has prepared plans for a three-storey block comprising 18 flats at Elsdon Street, North Shields. Plans are also to be prepared for a four-storey block of dwellings in Stephenson Street, North Shields.

Warminster, Wilts.—U.D.C. have granted planning permission to Frank Bruce and Co., Ltd., 58 St. Aidans Road, Bristol, 5, for the erection of 49 semi-detached houses south of Deverill Road.

Welford-on-Avon, War.—Ministry have approved, subject to conditions, the erection of 30 houses off the Binton Road for Drabble Bros., Ltd., 576 Stratford Road, Shirley, Solihull.

Wigan, Lancs.—B.C. have approved the erection of three police houses in Warrington Road, opposite Clapgate Lane. Estimated cost £6,280; propose the erection of 142 houses and an old people's hostel and flats at Botling Wood.

Worsborough, Yorks.—U.D.C. propose the erection of six bungalows for old people in Genn Lane, Ward Green.

RIVER AND FLOOD PREVENTION WORKS

Newport, I. of W.—River Board have approved revised scheme for alleviating flooding at Upper Shide Mill. Estimated cost £1,820.

ROADS, BRIDGES AND SITE WORKS

Aldershot, Hants.—M.T. have approved C.C.'s scheme for widening another section of Church Lane East. Estimated cost £4,950.

Gateshead, Dur.—B.C. are to build a flyover, 2,000ft. long and 20ft. high, from Park Lane roundabout to the Great North Road at Belle Vue Terrace. The scheme, which will cost between £500,000 and £750,000, is still in the planning stage. The scheme will be put out to tender.

Wandsworth.—B.C. recommended to approve scheme for the widening of Clarence Lane and part of Priory Lane.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Bolton, Lancs.—B.C. recommended to apply for sanction to borrow £3,500 for the construction of manholes on various sewers.

Brighton, Sussex.—B.C. recommended to approve the construction of 60 soakaways with gully connections, etc., to provide additional surface water drainage in the North and East Noulsecomb areas. Estimated cost £7,500.

Coleraine, Londonderry.—R.D.C. propose to construct a sewage disposal works at Articlave, near Castlerock. Estimated cost £12,000.

St. Ives, Hants.—B.C. recommended to re-invite tenders for the extension of Houghton Road sewer.

Sutton and Cheam, Surrey.—B.C. recommended to approve the reconstruction of 7,000 sq. yd. of sludge beds, estimated cost £30,000; and invite tenders from selected contractors

for the supply of: Generating station plant; machine tools and workshop equipment; pumping station plant and installation of cable work and wiring, comprising the third stage of the reconstruction of Worcester Park Sewage Works.

STREET LIGHTING

Brighton, Sussex.—B.C. recommended to approve the provision of 11 street lamps at north side of Marine Parade between Portland Place and Clarendon Terrace. Estimated cost £1,240.

Eastleigh, Hants.—B.C. recommended to apply for sanction to borrow £22,350 for improvements to street lighting.

Ennerdale, Cumb.—R.D.C. have submitted to Ministry for approval lighting scheme for Egremont (Gates' Garage to Gillfoot) and second stage of the trunk road lighting at Distington.

Margate, Kent.—B.C. recommended to invite tenders for the erection of street lighting equipment, comprising the second stage of the general improvement scheme.

CONTRACTS

Full details of the Contracts marked * will be found in our Advertisement Columns.
BUILDING AND DECORATING

Aberdare, Glam.—Erection of a new public library in the centre of the town with access roads, car park and ancillary works of a civil engineering nature for U.D.C. The library will be of reinforced concrete construction, on two floors, faced externally with Portland stone. Applications, giving particulars and approximate value of contracts of a similar character which have been recently undertaken, to D. G. James, clerk of the Council, Town Hall, Aberdare, by noon, July 6.

Andover, Hants.—Complete internal decoration of the Guildhall except the lower hall for B.C. Documents from the Borough Engineer, Municipal Offices, Beech Hurst, Weyhill Road, Andover. Tenders by July 10.

Antrim.—Proposed car park, store, etc., at premises 21-23 Alexandra Gardens, Belfast, 15, for County Health and Welfare Committees. Documents from Kenneth A. MacCormac, director of education, 475-477 Antrim Road, Belfast. Deposit £3. Tenders by July 5.

Barnack, Lincs.—External painting of 40 houses situate in the parishes of Barnack, Ufford, Wittering and Thornhaugh for R.D.C. Documents from D. W. Griffiths, surveyor, Council Offices Broad Street, Stamford. Tenders by July 12.

Belfast.—Supply and fitting of urinal backings in boys' toilets at Harding Memorial Primary School, Cregagh Road, for City Council. Documents from City Architect's Department, 40 Academy Street, Belfast, 1. Tenders by July 6.

Belfast.—Alterations and additions to Killinchy Presbyterian Church Hall. Documents from William C. McVeigh, chartered architect, 89 Malone Avenue, Belfast 9. Deposit £3 3s. Tenders by July 7.

Berkhamsted, Herts.—Additional office accommodation. Civic Centre, for U.D.C. Documents from the Engineer and Surveyor, Civic Centre, Berkhamsted. Deposit £2 2s. Tenders by July 14.

Birkenhead, Ches.—Erection and completion of an aged persons' social centre at Victoria Park for B.C. Documents from Borough Architect, 3 Conway Street, Birkenhead. Deposit £2 2s. Tenders by July 5.

Birkenhead, Ches.—Erection and completion of a children's short stay and reception room, Prenton Dell Road, Prenton Dell Estate, for B.C. Documents from Borough Architect, 3 Conway Street, Birkenhead. Deposit £2 2s. Tenders by July 10.

Canterbury, Kent.—Construction of retaining wall, for City Council. Tenders by July 15.

Carlisle, Cumb.—College of Art extensions for City Council. Tenders by July 24.

Carmarthen.—Painting and minor repairs of houses in the following contracts for B.C.: Contract (a) The painting and repair of 144 Council houses in the Park Hall and Capel Evan Road areas of Carmarthen; (b) the painting and minor repair of 184 Council houses in the Ross Avenue, Belvedere Avenue, Prosser Close areas of Carmarthen. Documents from the Borough Engineer and Surveyor, Municipal Buildings, Cambrian Place, Carmarthen. Deposit £2 2s., cheques payable to B.C. Tenders by July 5.

Caterham and Warlingham, Surrey.—Renewal of baths, provision of lavatory basins, renewal of water services, laying of new flooring and decorations of the bathrooms of 10 to 32 and 36 to 52 Downsway, Whyteleafe, for U.D.C. Documents from the Engineer

and Surveyor, Council Offices, Caterham. Tenders by July 10.

Cheadle and Gatley, Ches.—Erection of bowls house etc., for U.D.C. Tenders by July 8.

Cheshunt, Herts.—Office extension at Glen Luce, Turner's Hill (250 super. ft. approximately) of traditional construction, for U.D.C. Documents from the Engineer and Surveyor, Manor House, Waltham Cross, Herts. Deposit £2. Tenders by July 11.

Chester-le-Street, Dur.—Weatherproofing with bituminous felt of 101 aluminium prefabricated bungalows on six sites for R.D.C. Documents from F. Bowman, architect, Estate Office, Durham Road, Birtley. Deposit £1. Tenders by July 18.

Chorley, Lancs.—External painting of 244 dwellings and seven garages as follows for R.D.C.: Contract (1) One hundred and twenty-eight dwellings and three garages in the parishes of Anderton, Heath Charnock, Coppull and Heskin; (2) 116 dwellings and four garages in the parishes of Hoghton, Wheelton, Clayton-le-Wood, Whittle-le-Woods, Heapey, Ulmes Walton, Croston and Mawdesley. Documents from the Surveyor, Council Offices, Gillibrand Street, Chorley. Tenders by July 10.

Coventry.—Erection of Mount Nod primary school, comprising eight classrooms, assembly hall, dining hall and kitchen and ancillary accommodation, all in traditional construction, for City Council. Applications to City Architect and Planning Officer, Council House, Coventry, by July 3. Tenders by September 5.

Dronfield, Derbys.—Supply and fixing of the following for U.D.C.: (a) Baths, lavatory basins, w.c. basins and sinks, and (b) electric lighting and socket outlet points, in 35 Council houses on the Fletcher Avenue estate, Dronfield. Documents from Eric M. Housecroft housing manager, Manor House, Dronfield. Deposit £2 2s. Tenders by July 15.

Dalton-in-Furness, Lancs.—Erection of public conveniences at Duddon Road, Askam-in-Furness, for U.D.C. Documents from A. W. Charity, engineer and surveyor, Town Hall, Dalton-in-Furness. Deposit £1 1s. Tenders by July 10.

Dundee.—Following works at Stobswell Girls' Secondary School new science/gymnasium block, Molison Street, for Education Committee: (1) Carpentry, joiner and ironmonger work; (2) cloakroom equipment; (3) fire escape stair; (4) interwoven fencing. Documents from the City Quantity Surveyor, 21 City Square, Dundee. Tenders by July 4.

Durham.—Following for C.C.: Belasis R.C. (Aided) School—tar paving; Bishop Auckland St. Anne's C.E. (Controlled) School—renewal of timber floors; Castleside County School—remodelling out offices; Gainsford C.E. (Controlled) School—renewal of timber floors; New Lambton County School—fencing; Ryhope, Ryhope Street County School—additional cloakroom accommodation; Sacriston County School—hot water supply to wash basins; Shildon County School—renewal of timber floors; Waldrige County School—remodelling cloakrooms; Washington St. Joseph's R.C. (Aided) School—renewal of timber floors; Hartlepool King Oswy Modern School—tar paving; Haverton Hill Modern School—rebuilding boundary wall; Shildon Boys' Modern School—additional w.c.s and conversion to store; Wingate A. J. Dawson Grammar School—improvements to sanitation; Hebburn Technical College—provision of car park; Burnopfield Modern School—adaptation of central kitchen to form dining and changing accommodation; Coundon St. Joseph's R.C. (Aided) School—repairs to dining hall; Bishop Auckland New Ambulance Depot—erection; standard police houses, Summerdale, Shotley Bridge—erection of six pairs of houses detached office and garage; Winlaton Child Welfare Centre—erection. Applications to County Architect, South Street, Durham, by July 5.

Enniskillen, Fermanagh.—Erection and completion of a new kitchen at R.U.C. Depot for Ministry of Finance. Documents from Room 103, Law Courts Building, Belfast. Deposit £2. Plans also seen at Ministry of Labour and National Insurance Local Office, Browne Square, Enniskillen. Tenders by July 10.

Essex.—Stisted Hall Hostel for Elderly Persons, Braintree. Renewal of the electrical installation using as much existing material as possible, for C.C. The contract includes incidental builder's work and will be carried out while the building is in occupation, estimated cost £3,750. Applications to H. Conolly, county architect, County Hall, Chelmsford, by July 1.

Essex.—Chelmsford Moulsham County Secondary School. Recovering flat asphalt roofs, for C.C. The work consists of stripping off and laying new asphalt covering to the flat roofs, estimated cost £3,600. Applications to H. Conolly, county architect, County Hall, Chelmsford, by July 1.

Glossop, Derbys.—Improvement to pre-war houses for B.C. Tenders by July 13.

***Guildford, Surrey.**—Modernisation of 12 houses, for R.D.C. Deposit £2 2s. Tenders by July 10.

Hereford.—Internal painting works at the General Hospital for Management Committee. Documents from A. D. Edmunds, group secretary, Victoria House, Eign Street, Hereford. Tenders by July 14.

High Wycombe, Bucks.—Erection of a timber prelined hut on prepared foundations and including all sanitary work, drainage, etc., at the cemetery for B.C. Documents from the office of the Borough Engineer and Surveyor, Municipal Offices, High Wycombe. Tenders by July 10.

***Holland.**—Various works, for C.C. Tenders by July 31.

Kincardine.—Internal alterations, incorporating the following works: Mason, joiner, plumber, electrician, heating, painter and glazier at Kinneff primary school, for C.C. Documents from the office of the County Architect and Planning Officer, Westfield House, Arduthie Road, Stonehaven. Tenders by July 5.

Lancashire.—Erection of temporary kitchen and dining room at Nelson St. George's R.C. School, for C.C., including formation of concrete slab foundation for prefabricated wooden building (to be supplied and erected by nominated sub-contractor already selected) and also drainage, pavings, services, site works, and finishes. Applications to the County Architect, P.O. Box 26, County Hall, Preston, by July 3.

Lancaster.—Exterior painting of the Council Offices for R.D.C. Documents from the office of the Surveyor, 5 Dalton Square, Lancaster. Tenders by July 12.

Larne, Antrim.—Erection of a public sanitary convenience and site works at Waterfoot, for R.D.C. Documents from T. F. W. Nelson, clerk of the Council, Prince's Gardens, Larne. Tenders by July 5.

Leeds.—Following for Regional Hospital Board: (a) The building work; (b) the electrical installation, for the proposed alterations and extensions to the out-patients' department of the psychiatric block at St. James's Hospital, Leeds. Applications to the Architect to the Board, Park Parade, Harrogate, Yorks., by noon, July 4. Deposit £2 2s. each, cheques payable to the Board. Plans also seen at the following for: (a) The office of Kitson, Parish, Ledgard and Pyman, chartered architects, Lloyds Bank Chambers, Vicar Lane, Leeds 1; (b) Pashler and Partners, consulting engineers, City Chambers, Infirmary Street, Leeds 1. Tenders by August 3.

Leicester.—Erection of a maintenance depot at Harwin Road, Evington estate, for City Council. Documents from J. H. Lloyd Owen, city architect, Municipal Offices, Charles Street, Leicester. Deposit £1. Tenders by July 11.

Leicestershire.—Construction of retaining wall approximately 40yd. long at Stoughton Road, Thurnby, for C.C. Documents from the County Engineer and Surveyor, County Offices, Grey Friars, Leicester. Deposit £5. Tenders by July 14.

Liverpool.—Construction of changing accommodation, Jericho Lane, for City Council. Documents from City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool 2. Deposit £2 2s. payable to City Treasurer. Tenders by July 7.

Liverpool.—Reinstatement after fire damage at Stanley Abattoir for City Council. Documents from City Engineer and Surveyor, Municipal Buildings, Liverpool, 2. Tenders by July 4.

Londonderry.—Construction of a new burial ground, caretaker's bungalow, toilets and stores, together with ancillary works at Altnagelvin for R.D.C. Documents from the Council Offices, Glendernmott Road, Londonderry, or from the office of W. and M. Given, quantity surveyors, 3 Richmond Street, Londonderry. Deposit £5 5s. Tenders by July 18.

Manchester.—Alterations to Didsbury Library for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by July 12.

Manchester.—Modernisation of Princess Road bus depot, for City Council, including the following: (a) The supply and erection of folding shutter gates within the workshops. The area of openings to be shuttered is approximately 3,425ft. super., and a proportion of the gates will be electrically operated; (b) the heating installation in the workshops and the extract ventilation in the workshops. The heating system will be medium-pressure hot water supplied from existing gas-fired boilers; (c) the design and supply of reinforcement to the new sunken workshop. The work consists of simple slabs and beams. Applications to the General Manager, Manchester Corporation Transport Department, 55 Piccadilly, Manchester 1. Tenders by July 11.

***Manchester.**—Bridge painting for City Council. Tenders by July 5.

Manchester.—Asbestos cement roofing and cladding to street paviors' workshop, College of Building, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by July 5.

Manchester.—Alterations to public convenience at Barlow Moor Road, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by July 12.

Mansfield, Notts.—Following for B.C.: Contract G10—Five garages, Peel Crescent, Bull Farm; contract G11—Twenty-three garages, Averham Close, Ladybrook housing estate. Documents from the office of the Borough Engineer and Surveyor, Carr Bank, Mansfield. Deposit £2 2s. each Tenders by July 10.

Melton Mowbray, Leics.—Enlarging and internal alterations to the Public Library for U.D.C. Documents from Engineer and Surveyor's Department, Egerton Lodge, Melton Mowbray. Tenders by July 15.

Montgomeryshire.—Internal and external redecoration of New Road Primary School, Newtown, for Education Authority. Documents from J. A. Davies, director of education, County Offices, Newtown. Tenders by July 10.

Neston, Ches.—Following P.C. items for U.D.C.: (a) Supply of sanitary fittings, etc.; (b) electrical installation in connection with proposed alterations to four houses, Raby Road. Documents from the Engineer and Surveyor, Town Hall, Neston. Tenders by July 7.

Newbury, Berks.—Conversion of an existing cellar into a fireproof strong room for R.D.C. Documents from the Surveyor, Council Offices, Phoenix House, Newbury. Tenders by July 10.

Newcastle upon Tyne.—Erection of permanent brick garages on various sites, as follows, for City Council: (a) Blakelaw estate—14 garages; (b) Fairways estate—22 garages; (c) Tyne Quarry and Wharrier Street—49 garages. Applications in writing to the City Architect, 18 Cloth Market, Newcastle upon Tyne 1. Tenders by July 5.

Northampton.—Conversion of five cottages into three at Green Lane, Wootton, for R.D.C. This is a scheme for preserving sandstone period buildings. Applications to the Surveyor, 1 Cheyne Walk, Northampton. Deposit £2 2s. Tenders by July 26.

North Armagh.—Following at Lurgan and Portadown Hospital, for Hospital Management Committee: Alterations to X-ray department, operating theatres, nurses' home, and conversion of fever hospital to nurses' training unit, also sundry ancillary works; electrical work—complete work of electric wiring necessitated by the above building work; plumbing, heating and ventilation—installation of a new low pressure hot water heating system, hot and cold water services, and ventilating plant, in connection with the above building works. Documents for building work from Thomas T. Houston and Partners, 26 College Gardens, Belfast 9, and for electrical, and plumbing, heating and ventilating work from McCandless and Barton, consulting engineers, 6 Murray Street, Belfast 1. Deposit £5 5s. each. Tenders by July 31.

Northern Ireland.—Two hundred and sixty-seven dwellings and 42 garages, together with ancillary and engineering works, at Suffolk (Hillhead), second development for Housing Trust. Documents from the offices of the Trust, 12 Hope Street, Belfast, 12. Deposit £3. Tenders by July 10.

Northern Ireland.—External repainting of 18 dwellings at Conlig for Housing Trust, 12 Documents from the offices of the Trust, 12 Hope Street, Belfast, 12. Tenders by July 7.

North Riding.—Erection of county modern school at Nunthorpe, near Middlesbrough, for Co. E.C. Documents from the County Architect, County Hall, Northallerton, or Richard, Sheppard, Robson and Partners, architects, 5 Southampton Place, London, W.C.1. Plans seen at the County Hall, Northallerton. Tenders by Aug. 14.

North Riding.—Erection of George Pindar County Modern School (stage II), Scarborough, for Co. E.C. Documents from the County Architect, County Hall, Northallerton, or Gollings, Melvin, Ward and Partners, architects, 15 Manchester Square, London, W.1. Plans seen at the County Hall, Northallerton. Tenders by July 31.

Peterborough.—External painting of the following for R.D.C. (Group I) Ailsworth—14 houses; (II) Castor—five houses; (III) Marholm—six houses. Documents from the Surveyor, 51 Priestgate, Peterborough. Tenders by July 18.

Peterborough.—Erection of a pavilion/ changing room building, with showers and ancillary accommodation, together with the provision of all services, at Eastholm Secondary Boys' School Playing Field, Viney Close, for Joint Education Board. Applications to Portress and Richardson, chartered architects, Lloyds Bank Chambers, Cathedral Gateway, Peterborough. Deposit £2 2s., cheques payable to the Board. Tenders by July 31.

Pocklington, Yorks.—Improvements to the six Council houses, 1-6 Clifton Terrace, Market Weighton, for R.D.C. Documents from the Clerk of Works, Council Offices, Grove House, Pocklington. Tenders by July 10.

Preston, Lancs.—Supply and erection of structural steelwork for branch library and eight shops with 13 maisonnettes over at Savick estate, for B.C. Documents from the Offices of the Borough Engineer and Surveyor, Municipal Building, Preston. Deposit £2 2s. Tenders by July 14.

Reading, Berks.—Erection of five shop fronts with ancillary works at the shops in Northumberland Avenue, Whitley Estate, for B.C. Applications to the Borough Architect, Town Hall, Reading, by July 8.

Reading, Berks.—Extension of the laundry at Woodlands Aged Persons' Home, Reading Road, Woodley, for B.C. Documents from the Borough Architect, Town Hall, Reading. Tenders by July 24.

Redcar, Yorks.—Construction of Pierson Street depot, for B.C., including the design, manufacture and erection of steel or reinforced concrete frames, together with roofing and cladding, for the following buildings: (1) Paper bailing shed; (2) garage and repair shop; (3) joiners' shop. Documents from the offices of the borough Engineer, Ridley House, Coatham Road, Redcar. Deposit £2 2s. Tenders by July 15.

Ripley, Derbys.—Submission of schemes and tenders for the erection of a covered swimming bath for U.D.C. Documents from H. Hillier, surveyor, Town Hall, Ripley. Tenders by July 22.

Ripon, Yorks.—Repainting of the Town Hall fronting the Market Place for City Council. Documents from the office of the City Engineer, Low Saint Agnesgate, Ripon. Deposit £1 1s. Tenders by July 7.

Rochester, Kent.—External repainting and relaying of the following for City Council: (1) St. Williams Way estate (i) (96 dwellings); (2) St. Williams Way estate (ii), Valley View estate, Wickham Street, Amherst Road (91 dwellings); (3) Temple estate (122 dwellings); (4) Watling Street estate, Chapter estate (58 dwellings); (5) Manor Lane flats (120 dwellings). Documents from James A. Peel, city surveyor, 66 Maidstone Road, Rochester. Deposit £1 1s. each. Tenders by July 17.

Ross-on-Wye, Heres.—Internal painting works at the Alton Street Hospital for Management Committee. Documents from A. D. Edmunds, group secretary, Victoria House, Eign Street, Hereford. Tenders by July 14.

St. Ives, Hunts.—Repairs and improvements to 22 houses in Ramsey Road, for B.C. Documents from the Borough Surveyor, Town Hall, St. Ives. Tenders by July 10.

Samford, Suffolk.—External painting and repair of both or either of the following group of houses, for R.D.C.: 11 houses and four bungalows at Sutton Close and Lower Street, Sutton; 14 houses at Church Close, reat Wenham (and wall treatment to 20 houses). Documents from the Housing Manager, Council Offices, 25 London Road, Ipswich. Tenders by July 18.

Sawbridgeworth, Herts.—Repairs and improvements to be carried out at 1-12 Bullfields for U.D.C. Documents from the Surveyor to the Council, Council Offices, Sawbridgeworth. Tenders by July 24.

Shropshire.—Approved list of building contractors for erection of new buildings, and alteration and maintenance work to existing properties for C.C. Applications to the County Architect, Column House, London Road, Shrewsbury, by July 1. Contractors already on the approved list need not re-apply.

Skipton, Yorks.—Erection of block of five shops and five flats (two 2-bedroom, three 3-bedroom), together with lay-by on trunk road, and ancillary works, for U.D.C. Documents from Engineer, Surveyor and Architect, Town Hall, Skipton. Deposit £2 2s. Tenders by July 24.

Skipton, Yorks.—Alterations and extensions to town hall, for U.D.C., including new toilet block, office alterations, committee rooms, etc. Documents from Engineer, Surveyor and Architect, Town Hall, Skipton. Deposit £2 2s. Tenders by July 24.

Southend-on-Sea, Essex.—Proposed cliffs pavilion, Westcliff-on-Sea, phase 3, for B.C., including the erection, on existing pile foundations, of a two- and three-storey pavilion, comprising conference or concert hall with ancillary rooms, restaurant, car park, etc., of reinforced concrete frame and brick infilling construction, a total of about 850,000 cu. ft. external works, terracing, etc. Applications to the Borough Architect, 30 Alexandra Street, Southend-on-Sea, by July 6, accompanied by details of similar works previously undertaken and names of architects from whom references may be obtained.

Sunderland, Dur.—Following for B.C.: (a) Alterations to entrance gates and pedestrian barriers at Commercial Road Secondary Modern School, and (b) alterations to existing classrooms at Castle View Modern Mixed School, Sunderland. Documents from the Borough Architect, Grange House, Stockton Road, Sunderland. Tenders by July 20.

***Surrey.**—Repainting steel bridges for C.C. Tenders by July 29.

Swansea.—Erection of a science laboratory at Oystermouth county secondary school, for B.C. Documents from O. S. and J. H. S. Portsmouth, chartered architects, 7 Wind Street, Swansea. Deposit £2. Tenders by July 10.

Taunton, Som.—Internal decoration works at Mary Street House for R.D.C. Documents from the Surveyor, Mary Street House, Taunton. Tenders by July 4.

***Teignmouth, Devon.**—Erection of theatre and conference hall, for U.D.C. Apply by July 7. Deposit £3 3s.

Tenby, Pems.—Construction of 16 garages at the Glebe housing estate, for B.C. Documents from the Borough Surveyor's Office, Guildhall, Tenby. Tenders by July 17.

Wallasey, Ches.—Internal painting of the following schools for B.C.: (a) Egerton Grove; (b) St. Hilda's; (c) School of Art. Documents from the Borough Architect, Town Hall, Wallasey. Tenders by July 10.

Walsall, Staffs.—Construction of a 50ft. by 60ft. garage of steel frame construction with asbestos cladding (all to be provided by a nominated sub-contractor), concrete floor, foundations, dwarf walling and drainage, at Bloxwich police station for Watch Committee. Documents from M. E. Habershon, borough engineer and surveyor, Council House, Walsall. Deposit £2 2s. Tenders by July 7.

Walsingham, Norfolk.—Erection of 10 prefabricated garages, and the laying of concrete access road apron and base at Jubilee Avenue, Fakenham, for R.D.C. Documents from the Housing Officer, Council Offices, Baron's Hall, Fakenham. Tenders by July 17.

Watford, Herts.—External painting to 351 houses, flats and shops at Abbots Langley, Radlett, Sarritt and Oxhey and 14 garages at Radlett and Oxhey for R.D.C. Documents from the Engineer and Surveyor's Department, 99 Langley Road, Watford. Tenders by July 10.

Wellingborough, Northants.—Conversion of Hattondale, The Promenade, into 14 old persons' flatlets, warden's accommodation and common room, for U.D.C. Documents from Talbot Brown, Panter and Partners, architects, 3 Burystead Place, Wellingborough. Tenders by July 17.

West Riding.—Internal painting (part) of the Skipton Centre of the Craven Institute of Further Education for Co. E.C. Documents from D. Matthew, divisional education officer, Education Office, Water Street, Skipton. Tenders by July 7.

West Riding.—Re-slating part roofs at Batley Mill Lane Primary School for C.C. Documents from J. E. Littlewood, divisional education officer, Education Office, Queen Street, Morley. Tenders by July 10.

West Riding.—Workshop for further education at Dinnington Chelmsford Technical College for C.C. Applications to the Divisional Architect, Planet Road, Adwick-le-Street, near Doncaster. Tenders by July 25.

West Riding.—Building up fronts of verandas and provision of windows, etc., at 5 Block Male, Beech Towers, Staincliffe, Dewsbury, for C.C. Documents from the office of the Divisional Architect, Bishopgarth, Westfield Road, Wakefield. Tenders by July 17.

West Riding.—Alterations to lavatories at Carlton-in-Snaith I.M.I. School for C.C. Applications to the Divisional Architect, Planet Road, Adwick-le-Street, near Doncaster. Tenders by July 25.

West Riding.—Provision of waterborne sanitation at Sykehouse I.M.I. School for C.C. Applications to the Divisional Architect, Planet Road, Adwick-le-Street, near Doncaster. Tenders by July 25.

West Riding.—Goole Pasture Road Infants' School: Preparing repairs and painting for C.C. Documents from J. H. Crabtree, Education Officer, Goole. Tenders by July 21.

West Riding.—Renewal of certain ceilings at the Armthorpe Boys' Secondary and Junior Girls' Schools, Mere Lane, Armthorpe, near Doncaster, with acoustic ceiling tiles for West Riding. Documents from the Divisional Education Officer, County Area Offices, Station Road, Doncaster. Tenders by July 7.

West Sussex.—Extensions and modifications to West Dean C.E. primary school, nr. Chichester (Job 6369), for C.C. Applications to the County Architect, County Hall, Chichester, by July 3.

***Widnes, Lancs.**—Erection of 114 concrete garages for B.C. Apply by July 8. Deposit £5 5s. Tenders by July 29.

Worcestershire.—Major extensions to Stourbridge Oldswinford Hospital School for C.C. Applications to L. C. Lomas, county architect, 14 Castle Street, Worcester, by July 6. Contractors applying have not previously carried out major works under the County Architect, they are required to submit details of single contracts costing at least £50,000 which they have completed recently, together with the names of the Architects responsible.

Worsley, Lancs.—Supply and installation of a 30ft. x 9ft. x 30-ton public weighbridge for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Walkden. Deposit £2 2s. Tenders by July 8.

CLOTHING AND TEXTILES

Ipswich, Suffolk.—Supply of police uniforms for B.C. Documents from the Chief Constable, Chief Constable's Office, Ipswich. Tenders by July 10.

Stockport, Ches.—Supply of overalls and boiler suits to cleansing department for B.C. Documents from Cleansing Superintendent, Booth Street Depot, Stockport. Tenders by July 6.

DEMOLITION

Biggleswade, Beds.—Demolition of the following for R.D.C.: (a) 13, 15, 17, 19, 21, 23, 25, 27, 29, 31 and 33 Newtown, Henlow, Beds.; (b) 49, 51, 53 and 55 High Street, Henlow, Beds. Documents from the Surveyor, 23 London Road, Biggleswade. Tenders by July 4.

***Brighton, Sussex.**—Demolition works at Falmer pumping station, for B.C. Deposit £5 5s. Tenders by September 4.

Hertfordshire.—Demolition of the Horseshoe Cafe, Newtons Corner, Great North Road, New Barnet, for C.C., including demolition, removal of all surplus materials, and complete clearance of site. Documents from the office of the County Surveyor, County Hall, Hertford. Tenders by July 12.

Leyland, Lancs.—Two alternative demolition schemes to Worden Hall, for U.D.C. Documents from the office of F. D. Howe, engineer and surveyor, Council Offices, Leyland. Deposit £2 2s., cheques payable to U.D.C. Tenders by July 6.

***Malden and Coombe, Surrey.**—Demolition of piggeries for B.C.

Manchester.—Demolition and clearance of 1,076 premises, including houses, shops, licensed premises, etc., in the Rusholme Road, Chorlton-on-Medlock clearance area, for City Council. Documents from Director of Housing, Town Hall, Manchester 2. Tenders by July 6.

Midford and Launditch, Norfolk.—Demolition of condemned cottages as follows for R.D.C.: One, Kitchener Row, Shipdham; four, French Row, Shipdham; and three, Norwich Road, Mattishall. Documents from Maurice Turnbull, clerk of the Council, The Guildhall, East Dereham, Norfolk. Tenders by July 5.

***Worthing, Sussex.**—Demolition of water tower at Littlehampton for B.C. Deposit £5. Tenders by July 17.

ELECTRICAL

Belfast.—Supply, delivery and erection of 33-kV and lower voltage cables and accessories for City Council. Documents (W.195) from Electricity Department, East Bridge Street, Belfast, 1. Deposit £2 2s., cheques payable to Corporation. Tenders by Aug. 4.

Bradford, Yorks.—Installation of electric wiring in three dwellings at the Scar House Reservoir, Lofthouse, Harrogate, for Corporation Waterworks. Documents from the Waterworks Engineer, 50 Darley Street, Bradford, 1. Tenders by Aug. 26.

Croydon, Surrey.—Rewiring the electrical installation at the following for B.C.: (a) Davidson School, Davidson Road, Croydon; and (b) Winterbourne School, Winterbourne Road, Thornton Heath. Applications to the Borough Engineer, Town Hall, Croydon. Tenders by July 10.

Dewsbury, Yorks.—Rewiring and installation of new lighting and heating fittings in three rooms at the Dewsbury Technical College for B.C. Documents from the office of the Borough Architect and Buildings Surveyor, Town Hall, Dewsbury. Tenders by July 6.

Dewsbury, Yorks.—Alterations to existing electrical installations and the replacement of existing lighting fittings in six rooms at the Wheelwright Grammar School for Boys for B.C. Documents from the office of the Borough Architect and Buildings Surveyor, Town Hall, Dewsbury. Tenders by July 10.

Lancashire.—Annual maintenance of approximately 40 existing lifts in hostels for aged persons, for C.C. Applications to the County Architect, P.O. Box 26, County Hall, Preston, by July 3.

Luton, Beds.—Electrical re-wiring of the following for B.C.: (a) Twenty houses, Cannon Lane, Stopsley; (b) 29 houses, Dordans Road and Roman Road. Documents from Borough

Architect, Town Hall, Luton. Tenders by July 6.

Manchester.—Modernisation of Princess Road bus depot, for City Council, including alterations and additions to the electrical system in the new workshops. The work will include power and lighting installations and the redistribution of supplies. Documents will be issued on or about the 14 August. Applications to the General Manager, Manchester Corporation Transport Department, 55 Piccadilly, Manchester 1. Tenders by September 5.

Northern Ireland.—Improvements to electrical services at Tower Hill, Armagh, for Hospitals Authority. Applications to Secretary, N.I. Hospitals Authority, 27 Adelaide Street, Belfast, 2, by July 5.

Wallasey, Ches.—Electrical installation to 42 units of accommodation in Union Street for B.C. Documents from the Borough Architect, Town Hall, Wallasey. Tenders by July 12.

FENCING

Belfast.—Supply and erection of 527 lin. yd. of mild steel palisade fence at City Cemetery, Whitelock Road, for City Council. Documents from City Surveyor's Department (Room 92), City Hall, Belfast, 1. Tenders by Aug. 1.

GAS AND WATER SUPPLY

Billesdon, Leics.—Work of disconnecting 12 houses from a private water supply and connecting to the public mains, for R.D.C. Documents from the Surveyor, Council Offices, Thurnby. Tenders by July 29.

***Canvey Island, Essex.**—Pumping mains, contract ref. 142A for U.D.C. Deposit £5 5s. Tenders by Aug. 1.

Lisburn, Antrim.—Water supply scheme, Aghalee and Aghagallon, for R.D.C., including the laying of approximately 11,000 yd. of 4in. diameter spun-iron water pipes, and other ancillary works. Documents from John M. Shirley, clerk of Council, Council Offices, Harmony Hill, Lisburn. Deposit £1 1s. Tenders by July 17.

Montgomeryshire.—Raising the height of the dam, repairing defects in by-pass and washout channels, and other ancillary works, at the Nant-y-Geifr reservoir, Llanidloes for Water Board. Documents from the Engineer and Manager to the Board, County Offices, Welshpool. Deposit £5 5s. Plans seen at the offices of Wallace Evans and Partners, consulting engineers, Church Bank House, Welshpool. Tenders by July 15.

North Cornwall.—St. Minver parishes water supply improvement, for Water Board, including the construction of about 7,500 yd. of 9in. and 6in. spun cast-iron water main, complete with sluice valves, hydrants, pressure reducing valve, etc., between St. Endellion and Polzeath. Documents from Lemon and Blizard, consulting engineers, 1 Glenside, College Avenue, Mannamead, Plymouth. Deposit £3 3s. Tenders by July 20.

Pembroke.—Laying of a water main at Dairy Hayes, Carew, for R.D.C., including excavating and refilling trenches in fields and supplying, laying and jointing approximately 500 yd. of 4in. asbestos-cement pipes, together with valves and fittings. Documents from J. A. Campodonic, clerk of the Council, Tudor House, Pembroke, or from J. Owen Parry, Lewis and Partners, consulting engineers, Arcade Chambers, Ammanford. Deposit £3 3s. Tenders by July 11.

Peterborough.—Diverting and altering existing 4in., 15in. and 18in. water mains and the construction of multiple hydrants for City Council. Documents from City Engineer, Town Hall, Peterborough. Deposit £2. Tenders by July 5.

***Sutton Coldfield, War.**—Construction of overflows at two reservoirs for B.C. Deposit £2. Tenders by July 7.

Taunton, Som.—Staplegrave-Obridge link water main, for B.C., including the laying of approximately 2,100 yd. of 15in., 12in. and 9in. diameter spun-iron pipes, with tyton joints. Documents from W. J. Wonnacott, engineer and manager, Flook House, Station Road, Taunton. Deposit £2 2s. Tenders by July 19.

Wood Green.—Plumbing work in connection with the extension of the water supply at various allotment sites, for B.C. Documents from the office of the Borough Engineer, Town Hall, Wood Green, N.22. Tenders by July 12.

HARBOURS, PIERS AND SEA DEFENCE WORKS

Ross and Cromarty.—Port of Ness harbour. Isle of Lewis. Repair works to the slipway at the above harbour for C.C., involving excavation and concrete wall construction between high water and low water. Documents from Blyth and Blyth, engineers, 28 Church Street, Inverness. Deposit £2 2s. Tenders by July 15.

HEATING AND VENTILATING

Belfast.—Alterations and additions to mechanical services at Killinchy Presbyterian Church Hall. Documents from Oscar Faber and Partners, consulting engineers, 31 College Gardens, Belfast, 9. Deposit £3 3s. Tenders by July 7.

Caernarvonshire.—Heating installation at Rhiwlas Primary School for Co. E.C. Documents from the County Architect, County Offices, Caernarvon. Tenders by July 10.

Manchester.—Heating installation and hot water service boilerhouse plant to hostel, Elizabeth Gaskell College, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by July 14.

Manchester.—Heating installation and hot water supply, boiler house plant to combined clinic, Wilmslow Road, Withington, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by July 7.

HOUSING SCHEMES

***Abingdon, Berks.**—Ten dwellings at Gainsborough Green for B.C. Tenders by July 7.

Amlwch, Anglesey.—Demolition of existing cottages and outbuildings at Wesley Street, and erection of six bungalows in lieu, together with ancillary siteworks and drainage, for U.D.C. Documents from J. Isgoed Williams, architect, Pant-yr-Afon, Penmaenmawr, by July 14. Deposit £4 4s. Tenders by July 19.

Bewdley, Worcs.—One hundred and one two-bedroom- and three-bedroom-type dwellings, Springhill Estate, for B.C. Applications to Pemberton and Bateman, architects, 21 Vine Street, Evesham, by July 1. Deposit £2 2s., cheque payable to B.C.

Burry Port, Carm.—Eight flatlets at East Cottages, New Street, for U.D.C. Documents from J. E. Vaughan Evans, engineer and surveyor, Council Offices, Brynnyr House, Burry Port. Deposit £2 2s. Tenders by July 17.

Bury St. Edmunds, Suffolk.—Five houses and eight flats at Raingate Street, for B.C. Documents from the Borough Engineer and Surveyor, Borough Offices, Bury St. Edmunds. Deposit £2 2s. Tenders by July 7.

Dewsbury, Yorks.—Twelve two-storey flats (one-bedroom type in blocks of four) and a public convenience, including construction of necessary roadworks, etc., in one contract at Whitley housing site for B.C. Documents from the office of the Borough Architect and Buildings Surveyor, Town Hall, Dewsbury. Deposit £3. Tenders by July 17.

Gipping, Suffolk.—One detached bungalow and site works in grounds of offices at Needham Market for R.D.C. Documents from the Engineer and Surveyor, Council Offices, Needham Market, near Ipswich. Deposit £2. Tenders by July 10.

***Huntingdon.**—Bungalows, flats and houses, for R.D.C. Deposit £2 2s. Tenders by Aug. 9.

Godalming, Surrey.—Dwelling house and garage at Unstead sewage works for B.C. Documents from the Borough Engineer and Surveyor, Branksome, Filmer Grove, Godalming. Deposit £2 2s. Tenders by July 14.

Hastings, Sussex.—Five police houses at Mount Road, and a police report room at High Bank, for B.C. Applications to the Borough Engineer, 37 Wellington Square, Hastings. Deposit £2 2s., payable to Corporation. Tenders by July 14.

Hatfield, Herts.—Thirty dwellings at School Lane, Essendon, for R.D.C. Documents from W. J. Davis, engineer and surveyor, North Place, 82 Great North Road, Hatfield. Deposit £5 5s. Tenders by July 24.

Isle of Wight.—Following for R.D.C.: (a) One block of flats at Brading; (b) three pairs of bungalows at Niton; (c) one pair of bungalows at Thorley. Documents from 30 Pyle Street, Newport. Deposit £2 2s. each. Tenders by July 17.

Limerick, Eire.—One hundred and fifty-five houses at Greenhill-Tankfield for City Council, consisting of 22 five-apartment, 107 four-apartment and 26 three-apartment, together with fuel stores and all necessary site works. Documents from S. O. P. O. Ceallachain, architect, Arus na Cathrach, Rutland Street, Limerick. Deposit £10. Tenders by July 24.

Liverpool.—Eight houses at Beaufort Street for City Council. Documents from City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2. Deposit £2 2s., payable to City Treasurer. Tenders by July 5.

Malvern, Worcs.—Eighteen pairs of traditional houses at Beauchamp Road, Malvern Link and one pair of traditional houses at the junction of Bosbury Road and Jamaica Road, for U.D.C. Documents from C. C. Iudson, surveyor and water engineer, The Council House, Malvern. Deposit £2 2s. Tenders by July 20.

Manchester.—Following for City Council: Contract 308.—Nuthurst Road, Moston—44 dwellings; contract 353.—Cherry Lane, Bredbury—38 dwellings. Documents from Director of Housing, Town Hall, Manchester 2. Tenders by July 27.

Newmarket, Suffolk.—Sixteen flats in Mill Lane, Exning, in two two-storey blocks of traditional construction for U.D.C. The work to be carried out includes the whole of the site preparations, pavings, drainage and services. Applications to P. D. Lees, architect, Council Offices, Severals House, Newmarket. Deposit £2 2s. Tenders by July 28.

North Riding.—Erection of a police house, office and garage (stone faced) at Terrington, for C.C. Applications to the County Architect, County Hall, Northallerton, by July 12. Deposit £2 2s. Tenders by Aug. 1.

St. Albans, Herts.—Erection of two blocks of four houses, two pairs of bungalows, six garages, and contingent works, on the London Road estate, for City Council. Documents from the office of the City Engineer and Surveyor, 16 St. Peter's Street, St. Albans. Tenders by July 20.

Sittingbourne and Milton, Kent.—Forty-six dwellings, Cook's Lane, Milton Regis, for U.D.C., comprising 28 N type and 18 P type. Documents from the Engineer and Surveyor's Office, 89 London Road, Sittingbourne, on or after July 3. Deposit £3 3s. Tenders by July 24.

***Southampton.**—Contracts B.347 and B.355 for B.C. Apply by 10 a.m. July 11.

Staffordshire.—Two pairs of police houses and a senior police officer's house at Stone, The Mount and Mount Street for C.C. Applications to T. H. Evans, clerk of the County Council, County Buildings, Stafford, by July 5. Deposit £2 2s. Tenders by Aug. 4.

Thirsk, Yorks.—A block of three houses and communal hall on the housing site at Norby, together with the necessary house drainage, paths and fences, for R.D.C. Documents from Needham, Thorp and White, architects, 5 Petergate, York. Deposit £2 2s., payable to R.D.C. Tenders by July 15.

Uckfield, Sussex.—Erection of dwellings for R.D.C. Applications to the Engineer and Surveyor, Council Offices, Beacon Road, Crowborough, by July 7.

Upton-upon-Severn, Worcs.—Two bungalows at Knightshill, Severn Stoke, for R.D.C. Applications to H. W. King, 29 High Street, Evesham, by July 4. Deposit £5 5s. Tenders by July 22.

***Wandsworth.**—Flats at Putney for B.C. Apply by July 5.

Wantage, Berks.—Thirty-five dwellings at Ormond Road, Wantage, and site works in connection therewith, for U.D.C. Applications to W. G. Stanbrook, architect, 37a Bartholomew Street, Newbury. Deposit £3 3s. cheque payable to U.D.C. Tenders by July 24.

Warmley, Glos.—One block of four bungalows, Cadbury Heath Road, Warmley; conversion and improvement of one pair of semi-detached four-bedroom houses into one-bedroom flats, Cherry Gardens, Bitton, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, Warmley House, Warmley, Bristol. Deposit £3 3s. Tenders by July 17.

***Widnes, Lancs.**—Forty-six maisonnettes at Ditton Neighbourhood Unit for B.C. Deposit £10 10s. Tenders by July 29.

Witney, Oxon.—Following for R.D.C.: Alvecot—four maisonnettes; Evnsham—10 houses and roadworks; Hailey—four houses, two bungalows and roadworks. Applications to the Engineer and Surveyor, 28c High Street, Witney, by July 10.

Witney, Oxon.—Following for R.D.C.: The Fosseyway, Brize Norton—one pair of three-bedroom houses; Millwood End, Lone Hanborough—one pair of three-bedroom houses. Documents from I. Smith, Didbury, Neave and Partners, quantity surveyors, 39 Castle Street, Luton, Beds. Tenders by July 18.

Worsborough, Yorks.—Ten bungalows in West Street, Worsborough Bridge, and six bungalows in Highbone Lane, Ward Green, for U.D.C. Documents from the Surveyor, Council Offices, Park Road, Worsborough Bridge. Deposit £2 2s. (cheques payable to U.D.C.). Tenders by July 13.

MATERIALS AND SUPPLIES

Cambridge.—Supplying and machine laying on prepared surfaces the undermentioned types of materials for the 12 month period commencing October 1, 1961, for City Council. Tared slat: bituminous granite, limestone and slag; gravel asphalt; granite asphalt; sand; carpet; granite chippings (precast). Applications for documents marked "Tender Application" to the City Engineer and Surveyor, The Guildhall, Cambridge, accompanied by a large stamped addressed envelope. Tenders by Sept. 1.

***Doncaster, Yorks.**—Supply of dustbins for B.C. Tenders by July 3.

Manchester.—Supply of five lengths of woven wire conveyor belting for City Council. Documents from the Director of Public Cleansing, Town Hall, Manchester, 2. Tenders by July 7.

Sowerby Bridge, Yorks.—Supply and delivery of 500 plain taper sided dustbins and covers, to B.S.S. 792/47, as follows, for U.D.C.: 200 bins of 3½ cu. ft. capacity; 300 bins of 2½ cu. ft. capacity. The bins to be embossed "S.B.U.D.C. 1961" in letters 2in. high, and galvanised after manufacture. The tenders should allow for the covers to be: (a) in metal; and (b) in rubber. Documents from the Senior Public Health Inspector, Beech Road, Beech Road, Sowerby Bridge. Tenders by July 10.

West Riding.—Supply of 2,000 tons of hard rock stone or brick filling material to site, Liverpool-Preston-Leeds trunk road, Edmondsons Lane, Broughton, for C.C. Applications to the County Engineer and Surveyor, County Hall, Wakefield. Tenders by July 4.

***Wrexham, Denbighs.**—Supply of paint for B.C. Tenders by July 5.

PLANT AND MECHANICAL TRANSPORT

Leicester.—Supply of one David Brown 50TD front shovel, with accessories to be specified, for City Council. Documents from the Director of Public Cleansing, Jarvis Street, Leicester. Tenders by July 6.

Leicester.—Supply and delivery of eight Karrier transport refuse collection vehicles, for City Council. Documents from Director of Public Cleansing, Jarvis Street, Leicester. Tenders by July 8.

Millom, Cumb.—Supply of one Dennis 18/20 cu. yd. two-way tipping refuse collection vehicle for R.D.C. Documents from the Surveyor, Council Offices, Millom. Tenders by July 8.

Sowerby Bridge, Yorks.—Supply and delivery of one rear loading refuse collector powered by a diesel engine of approved design, for U.D.C. The rear loading body to have a loading height not exceeding 4ft. 3in., with a compression or gravity type packing arrangement. Capacity of the body, 18/20 cu. yd. A double cab to be provided which will incorporate a loader's compartment to seat not less than three loaders—a salvage rack on the roof of the double cab, together with access ladder or suitable steps—the vehicle painted and lettered to the Council's requirements and delivered on or about 1st April, 1962. Documents from the Senior Public Health Inspector, Beech Road, Beech Road, Sowerby Bridge. Tenders by July 17.

***Swansea.**—Supply of vehicles for B.C. Tenders by July 14.

PLAYING FIELDS, PARKS, ETC.

Batley, Yorks.—Site preparation and seeding of 3,150 sq. yd. around bungalows at Woodsome estate for B.C. Documents from Borough Engineer, Hanover Street, Batley. Tenders by July 17.

Hertfordshire.—London-Yorkshire Motorway—M.1-M.10—St. Albans By-Pass. Spreading topsoil for tree planting, for C.C., including excavation in existing stacks of topsoil loading, hauling and spreading and grass seeding over, on a number of sites on the Hertfordshire section of the motorway. Over 12,000 cu. yd. of soil are involved. Documents from the County Surveyor, County Hall, Hertford. Tenders by July 12.

Margate, Kent.—Construction of three non-attention type tennis courts, at Beach Avenue, Birchington-on-Sea, for B.C. Documents from the Parks Superintendent, Hartsdown Park, Hartsdown Road, Margate. Tenders by July 31.

Wednesbury, Staffs.—Levelling, soiling and seeding of 4,150 sq. yd. of open space at Pine Avenue for City Council. Documents from A. W. Ewart, borough engineer and surveyor, Town Hall, Wednesbury. Deposit £2 2s. Tenders by July 10.

RIVER AND FLOOD PREVENTION WORKS

Essex.—Construction of concrete flumes for the gauging of river flows at the following sites for River Board: River Stour—Langham (6 miles north of Colchester), twin-throated flume in dry channel across loop of river. Principal quantities: Mass and reinforced concrete 290 cu. yd.; earthwork 3,200 cu. yd. River Blackwater—Rivenhall End (2 miles north-east of Witham), twin-throated flume in existing river. Principal quantities: Mass and reinforced concrete, 210 cu. yd.; earthwork, 2,250 cu. yd. River Brain—Witham, concrete weir in existing stream. Principal quantities: Concrete, 105 cu. yd.; earthwork, 1,600 cu. yd. River Chelmer—Chelmsford, concrete weir in dry channel diversion, low-flow weir in existing channel. Principal quantities: Concrete, 120 cu. yd.; earthwork, 4,000 cu. yd. The works are to be

carried out simultaneously between July and December, 1961. Applications to the Engineer to the Board, Rivers House, 129 Springfield Road, Chelmsford, by July 3.

ROADS, BRIDGES AND SITE WORKS

Audenshaw, Lancs.—Provision and laying of approximately 12,500 sq. yd. of dense bituminous macadam on district roads to the east of Guide Lane, A.6017, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Rycroft Hall, Audenshaw, near Manchester. Tenders by July 20.

Beaconsfield, Bucks.—Housing scheme 19—construction of roads and footpaths, The Ferns, London End, for U.D.C., including (a) the widening of approximately 85 lin. yd. of existing carriageway; (b) the construction of approximately 170 lin. yd. of new carriageway (hardcore base) together with all ancillary footpath and drainage works; and (c) the construction of approximately 210 lin. yd. of 6in. diameter g.s.w. foul and surface water sewers. The site lies for the most part in the grounds of a property known as The Ferns and in gardens of some existing Council houses adjacent thereto. Documents from F. V. Harris, engineer and surveyor, Council Hall, Penn Road, Beaconsfield. Deposit £2 2s. Tenders by July 17.

Beeston and Stapleford, Notts.—Scarifying the existing surface and laying approximately 3,000 sq. yd. of two course hot rolled asphalt surfacing to B.S.S. 594:1958, at Chilwell Viaduct, for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Beeston. Deposit £1 1s. Tenders by July 4.

Belfast.—Completion of the surfacing to roads and footpaths at Glebeecole Estate, Glengormley. Documents from Vincent B. Evans chartered quantity surveyor, Provincial Bank Chambers, 3 Bradbury Place, Belfast, 7. Tenders by July 6.

Belfast.—Erection of a terrace of 30 foreman's lock-ups, provision of an approach road and formation of reinforced concrete hard-standing at Post Office Garage, Balarat Street, Belfast, 6, for Ministry of Finance. Documents from Room 103, Law Courts Building, Belfast. Tenders by July 27.

Berkshire.—Private street works for C.C. Deposit £2 each. Tenders by July 21.

Beverley, Yorks.—Following for R.D.C.: (Contract 485) Approximately 560 sq. yd. tarmac macadam carriageway and 200 lin. yd. 6in. sewers at Holly Hill, Wotton; (478) approximately 430 sq. yd. of concrete carriageway and 160 lin. yd. of 6in. sewers at Beech View, Walsington. Documents from G. Palfreyman, engineer and surveyor, 22 Laigate, Beverley. Deposit £1 each, cheques payable to R.D.C. Tenders by July 18.

Birmingham.—Advance notice of tenders for the construction of Aston-Six-Ways underpass for City Council.

Bognor Regis, Sussex.—Construction of footpaths in the Arboretum, Hotham Park, for U.D.C. Documents from the Parks Superintendent, The Lodge, Hotham Park, Bognor Regis. Tenders by July 4.

Bournemouth, Hants.—Construction of about 1,600 lin. yd. of roads and sewers, Turbary Common development, for B.C. Documents from Borough Engineer, Town Hall, Bournemouth. Tenders by July 7.

Buckinghamshire.—Roadworks on Henley-Marlow road for C.C. Deposit £2. Tenders by July 17.

Buckley, Flint.—Surface dressing for U.D.C. Tenders by July 24.

Carmarthen.—Extension of John Street car park, for B.C. The work mainly involves the demolition of three houses and boundary walls; gated exit; laying of 6in. surface water drain and gullies and general excavation over site, approximately 420 cu. yd. and approximately 1,025 super. yd. hardcore foundation and bitumen macadam surfacing. Documents from the Borough Engineer and Surveyor, Municipal Buildings, Cambrian Place, Carmarthen. Deposit £2 2s. cheque payable to B.C. Tenders by July 10.

Clevedon, Som.—Surface dressing, 1961-62, for U.D.C. Tenders by July 17.

Colchester, Essex.—Resurfacing works for B.C. Deposit £2. Tenders by July 17.

East Sussex.—Private street works for C.C. Apply by July 8.

Eccles, Lancs.—Following works, for B.C.: (1) Paving and making-up of, (a) carriageways and footpaths in Chatsworth Road (part of) and Westminster Road (part of), (b) footpaths between Bray Avenue, Dale Avenue and Trevor Road; (2) surfacing to car park, Irwell Place, with bitumen macadam and cold asphalt; (3) (a) footpath reconstruction, (b) surfacing to carriageways with hot rolled asphalt of certain district roads in various parts of the borough. Documents from the Borough Engineer and Surveyor, Town Hall Annex, Irwell Place, Eccles. Tenders by July 10.

Edinburgh.—Reconstruction and lowering of approximately 180yd. of carriageway under the

railway bridges at Saughton Road North for City Council. Documents from City Engineer, 329 High Street, Edinburgh, 1. Tenders by July 10.

Essex.—Construction of footbridge over the Ingatestone By-pass, for C.C. Deposit £5. Tenders by July 28.

Essex.—Reconstruction of Woodford Bridge, for C.C. Deposit £5. Tenders by July 28.

Faithworth, Lancs.—Supplying and laying approximately 9,117 sq. yd. of 1½in. single course hot rolled asphalt by mechanical spreader, on Oldham Road, for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Faithworth. Deposit £2 2s. Tenders by July 14.

Hatfield, Herts.—Surfacing Dellsome Lane estate for R.D.C. Deposit £2 2s. Tenders by July 14.

Hatfield, Herts.—Construction of Chelwood Avenue service road for R.D.C. Deposit £2 2s. Tenders by July 14.

Hearsley, Lancs.—Private street works, for U.D.C. Tenders by July 14.

Hereford.—Access road at sewage disposal works for City Council. Deposit £2 2s. Tenders by July 10.

Hornsey.—Following, for B.C.: Supply of approximately 600 tons ½in. red granite chippings; supply of approximately 800 tons ½in. slag or igneous chippings; supply and spraying of approximately 1,200 gallons rubberised bitumen. Documents from Borough Engineer and Surveyor, Town Hall, N.8. Tenders by July 10.

Hornsey.—Paving and kerbing for the 12 months commencing August 1, 1961, for B.C. Applications to the Borough Engineer, Town Hall, N.8. Tenders by July 5.

Hull.—Construction of approximately 560 sq. yd. of concrete road and 65 lin. yd. of sewer on the permanent housing site (Ref. 124), Clough Road (Grove House), for City Council. Documents from the City Engineer's Department, Guildhall, Hull. Deposit £2, payable to City Treasurer. Tenders by July 10.

Keighley, Yorks.—Shaping of approximately two acres of Marley top and soiling 8in. thick. The soil to be excavated from a spoil heap in the nearby Marley Sewage Works, for B.C. Documents from the Borough Engineer's office, College Street, Keighley. Tenders by July 6.

Keynsham, Som.—Making-up of Ashmead Road for U.D.C. Deposit £2 2s. Tenders by Aug. 4.

Kidderminster, Worcs.—Butts Lane housing site, Stone: Construction of approximately 1,200 sq. yd. of tarmac macadam carriageway with hardcore foundation; 700 sq. yd. of tarmac macadam footways; 1,000 lin. yd. 6in. diameter foul and surface water sewers; 1,000 lin. yd. 3in. diameter asbestos-cement pipe water mains; 450 lin. yd. of 4in. diameter cast-iron pipe sewage pumping main and a small sewage pumping station, together with ancillary works, for R.D.C. Documents from the office of A. Chapman, engineer and surveyor, Land Oak House, Kidderminster. Deposit £3 3s. Tenders by July 14.

Lanarkshire.—Holytown-Newarthill highway (C.93), improvement at Loanhead Road for C.C., including the reconstruction of approximately 650yd. of Loanhead Road near Holytown Station level crossing. The work to be carried out comprises the construction of a 22ft. wide carriageway with verges and footpaths. The surfacing works will be carried out by the C.C. Applications to the County Surveyor, 19 Auchingramont Road, Hamilton, by July 7.

Lancashire.—Following for C.C.: Culverting of Rochdale Canal and road improvement and demolition of Ben Healey Canal bridge 1834, situated on Canal Street on the Littleborough-Milnrow road, B.6225, in the urban district of Littleborough. Documents from the County Surveyor and Bridgemaster, P.O. Box 9, County Hall, Preston. Deposit £5 (cheques payable to C.C.). Tenders by July 27.

Leeds.—Following for City Council: (a) Private street works—kerbing, tarmac macadam footpaths, tarmac macadam carriageways etc., in the following: Harrowby Crescent, Harrowby Road (part), Wycliffe Drive; (b) improvement works—(1) excavation, sub-soil drainage and construction of concrete finished carriageway in Green Lane (part), Cookridge, (2) construction of roundabout with granular base, two-coat hot asphalt surfacing, kerbing and other works at junction of Oakwood Lane, Foundry Lane and Amberton Road. Documents from the Highways Engineer, 155 Kirkstall Road, Leeds, 4. Deposit £1 1s. Tenders by July 6.

Lindsey.—Lacey-Ludborough road (B.1431): Improvement at Scrub Holt, Lacey, for C.C. The scheme commences approximately 200yd. south of Lacey Cross Roads, and extends in a southerly direction for approximately 1,300yd. (a) The fencing works include the provision and erection of approximately 2,275 lin. yd. of four rail Lincolnshire-type wooden

fencing; (b) the site clearance, earthworks and drainage includes the uprooting and disposal of trees, stumps and hedges, excavation for and provision and laying of approximately 900 lin. yd. of concrete pipes and porous concrete pipes, construction of manholes, excavating new ditches, cleaning out ditches and some 2,500 cu. yd. of excavation, hauling and depositing within the works. Documents from County Surveyor, County Offices, Lincoln. Deposit £5 each. Tenders by July 14.

Llantrisant and Llantwit Fardre, Glam.—Finishing works—Hendreforgan housing site, (phase 1), Gilfach Goch, for R.D.C., including (1) 200 tons (approximately) ballast; (2) 2,370 sq. yd. (approximately) single coat tarmac macadam roads; (3) 1,520 sq. yd. (approximately) tarmac macadam footpaths; (4) 2,230 sq. yd. (approximately) soiling and seeding, together with ancillary works. Documents from the Engineer and Surveyor, Council Offices, Danygraig, Llantrisant. Deposit £2 2s. Tenders by July 10.

Londonderry.—Following for C.C.: (1) Reconstruction of approximately one mile of route B.17, Coleraine to Bushmills, at Cloyfin cross roads. The work involves approximately 20,000 cu. yd. of excavation; (2) reconstruction of approximately 4-mile of route B.48, Newbuildings to Donnemana at Newbuildings. The work involves approximately 1,000 cu. yd. of excavation and construction of approximately 185 lin. yd. of twin 3ft. diameter piped culvert; (3) construction of traffic island and ancillary works at junction of A.54, Coleraine to Kilrea, and route T.7, Coleraine to Limavady, at The Screen Corner; (4) construction of traffic island and ancillary works at junction of D.R.123, Maydown to Coolkeeragh, and route T.7, Londonderry to Limavady, at Maydown School. Documents from H. K. Scott, county surveyor, Courthouse Coleraine. Deposit £5. Tenders by July 11.

Longridge, Lancs.—Making-up two streets totalling 16½yd. length, with bituminous macadam carriageways, footpaths and drainage, for U.D.C. Applications to Council Offices, Longridge, Preston. Deposit £2. Tenders by July 17.

Luton, Beds.—Roads and sewers (stage five). Lewsey Farm estate (approximately 30,000 sq. yd. lean concrete, bituminous surfaced carriageways with kerbs, also 3,700 lin. yd. 6in. to 12in. diameter sewers and ancillary works), for B.C. Documents from Borough Engineer, Town Hall, Luton. Deposit £2 2s. cheques payable to Corporation. Tenders by July 13.

Luton, Beds.—Final making-up of Memorial Road and Sarum Road; total lengths of work 400ft. and 360ft., respectively, for B.C. Work comprises construction of carriageway, foul and surface water sewers, and incidental works. Documents from Borough Engineer, Town Hall, Luton. Deposit £2 2s., cheques payable to Corporation. Tenders by July 18.

Malden and Coombe, Surrey.—Resurfacing of district roads, etc., for B.C.

Mansfield, Notts.—Making-up of part of Charnwood Grove, for B.C., including the providing and laying new kerbs, water-bound macadam, flagging, and some 408 sq. yd. of 3in. bituminous surfacing. Documents from E. T. Crowe, borough engineer and surveyor, Carr Bank, Mansfield. Deposit £2 2s. Tenders by July 13.

Mansfield Woodhouse, Notts.—Reconstruction and widening of Albert Street and Park Hall Road for U.D.C. Deposit £3 3s. Tenders by July 29.

Mexborough, Yorks.—Reconstruction of footpaths, for U.D.C., including a limited amount of work, comprising lifting all existing material and laying new kerbs, tarmac macadam and cold asphalt surfacing to new works. Documents from Surveyor, Council Offices, Adwick Road, Mexborough. Tenders by July 8.

Middlesex.—Supplying and laying on various county roads in the central division of Middlesex approximately 12,000 tons of gravel asphalt base course and 3,000 tons of hot rolled asphalt to B.S.S. 594 for C.C. Documents from the County Engineer, Middlesex House, Vauxhall Bridge Road, S.W.1. Deposit £1. Tenders by July 5.

Newport, Mon.—Betws neighbourhood unit, advance preparation works, contract 3, approximate area 30 acres, for B.C. including site clearance, construction of stone pitched carriageway, soil and surface water sewers, and ancillary works. Documents from the office of the Borough Engineer, Civic Centre, Newport, Mon. Deposit £2 2s., payable to Borough Treasurer. Plans also seen at the office of W. S. Atkins and Partners, consulting engineers, 6 Park Place, Cardiff. Tenders by July 12.

Perth and Kinross.—Stirling-Locheamhead-Crianlarich trunk road, Lix Toll-Crianlarich section (route A.85): Reconstruction of Luib Station, Burn Bridge, for C.C., including the reconstruction of a 12ft. clear span bridge constructed of mass concrete abutments with a reinforced concrete deck, width between

parapets 40ft. Works will also include widening of immediate approaches to bridge, together with miscellaneous other works. Documents from office of County Surveyor, 57 Feus Road, Perth, whose representative will be at the site on July 6, at 11 a.m., to explain scheme. Deposit £5 cheque. Tenders by July 28.

***Pontefract, Yorks.**—Laying asphalt, etc., for B.C.

***Pontypool, Mon.**—Completion of roads and footpaths for U.D.C. Deposit £3 3s. Tenders by July 25.

Ripon and Pateley Bridge, Yorks.—Formation of a car park and ancillary road works at the rear of the Council Offices for R.D.C. Applications to the Surveyor and Chief Public Health Inspector, P.O. Box 1, Council Offices, Pateley Bridge. Tenders by July 17.

Ripon, Yorks.—Reconstruction of Cloth-holme Road for City Council including scarifying, re-shaping, kerbing, channelling and provision and laying of tar and bituminous macadam surfacings, a small quantity of road gully and connection work is included; approximate length of roadwork is 960 lin. yd. Documents from the City Engineer, Low Saint Agnesgate, Ripon. Deposit £2 2s. Tenders by July 10.

***Romford, Essex.**—Resurfacing of Brentwood Road for B.C. Deposit £2 2s. Tenders by July 10.

***Stafford.**—Roads and sewers at Browning Street redevelopment area for B.C. Tenders by July 12.

Staffordshire.—Reconstruction and diversion of a length of the Stone-Rugeley Road (A.51) at Burston for C.C. The work includes excavation, kerbing, vibrated dry stone, carriageway foundation, surface water drainage, hedges, fences, walls, two-coat bituminous macadam running surface and cattle creep. Documents from T. H. Evans, clerk of the County Council, County Buildings, Stafford. Deposit £5. Tenders by July 13.

***Staffordshire.**—Improvement at Amerton A.518 for C.C. Deposit £5. Tenders by July 24.

Sunderland, Dur.—Supply and laying of asphalt pavings and roads to Monkwearmouth Comprehensive School for B.C. Documents from the Borough Architect, Grange House, Stockton Road, Sunderland. Tenders by July 20.

***Swadlincote, Derbys.**—Resurfacing to High Street for U.D.C. Tenders by July 17.

Thorne, Yorks.—Making up of 270yd. of Milcroft Crescent, Hatfield, for R.D.C. Documents from the Surveyor, P.O. Box 4, Council Offices, Thorne, Doncaster. Deposit £2 2s. Tenders by July 11.

***Trowbridge, Wilts.**—Site works at Bradley Road industrial site for U.D.C. Deposit £2 2s. Tenders by July 17.

Warmley, Glos.—Construction of six garage bases in concrete, approximately 430 sq. yd. tarmacadam, hardstanding and incidental works at Springfield Road, Mangotsfield, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, Warmley House, Warmley, Bristol. Deposit £2 2s. Tenders by July 17.

***Warwickshire.**—Private street works for C.C. Deposit £2 2s. Tenders by July 19.

Wednesbury, Staffs.—Supplying and laying of hot rolled asphalt as follows, for B.C.: Walsall Road A.4038—2,160 super. yd.; Wall-sall Street A.461—2,750 super. yd.; Darlaston Road A.462—2,250 super. yd. Documents from A. W. Ewart, borough engineer and surveyor, Town Hall, Wednesbury. Tenders by July 7.

Wellingborough, Northants.—Laying of approximately 870yd. of concrete kerb and 3,500 sq. yd. of cold asphalt at Hatton Park Road and Debdale Road, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Wellingborough. Tenders by July 10.

Wem, Salop.—Resurfacing of the road and footpath, re-laying kerbs and edging at Windmill Gardens housing site, Whixall, for R.D.C. Documents from C. H. Jeffery, surveyor, Council Offices, Wem. Tenders by July 12.

West Sussex.—Following improvement schemes for C.C.: (1) A.24—Pollards Hill to junction of A.272: Fencing, earthworks, drainage, carriageway construction, etc., for a new single 24ft. carriageway, approximate length 1,800yd.; (2) A.29—Bury Hill: Fencing, earthworks, drainage, carriageway construction, etc., for realigning and widening to 33ft. existing carriageway, approximate length 400yd.; (3) A.286—Cooksbridge: Fencing, earthworks, drainage, carriageway construction and provision of a 15ft. span Armco culvert with headwalls for realigning and widening to 24ft. existing carriageway, approximate length 300yd.; (4) A.259—Flen-sham: Fencing earthwork, drainage, carriageway construction, etc., for a new single 24ft. carriageway, approximate length 600yd.; (5) A.259—Climping: Fencing, earthworks, drainage, carriageway construction, etc., for realigning and widening to 24ft. existing

carriageway, approximate length 1,200yd. Applications to the County Surveyor, County Hall, Chichester, in an envelope endorsed "Road Improvement Schemes," by July 10.

***Wisbech, Isle of Ely.**—Roads and sewers (contract 226) for B.C. Deposit £2 2s. Tenders by July 22.

Witney, Oxon.—Construction of access road, base slabs and ancillary works to garages at Middletown, Hailey, for R.D.C. Documents from the Engineer and Surveyor, 28c High Street, Witney. Tenders by July 17.

Witney, Oxon.—Dark Lane reconstruction for U.D.C., including 4,200 sq. yd. of tarmacadam/stone carriageway and 1,830 sq. yd. of in-situ concrete footpaths, together with 1,400 lin. yd. of kerbing and 817 lin. yd. of 6in., 9in. and 12in. surface water sewers, 556 lin. yd. of 4in. cast-iron water mains and ancillary works. Documents from the offices of the Engineer and Surveyor, 26 Church Green, Witney. Deposit £2 2s. Tenders by July 19.

***Worcester.**—Site completion works for City Council. Deposit £2 2s. Tenders by July 17.

York.—Kingsway North-Burton Stone Lane junction—laying of approximately 350yd. of concrete kerb, 1,600 sq. yd. of concrete flagging, together with other ancillary works, including gullies and connections, for City Council. Documents from Chas. J. Minter, city engineer, surveyor and planning officer, 7 St. Leonard's Place, York. Deposit £2 (cheques payable to Corporation). Tenders by July 11.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Angus.—Duntrune drainage for C.C., including supplying and laying approximately 298yd. f.c. sewer with precast concrete manholes, and the construction of a septic tank. Documents from the office of the County Engineer, County Buildings, Forfar. Tenders by July 17.

Crediton, Devon.—Eggesford sewerage and sewage disposal for R.D.C., including the laying of about 250 lin. yd. of 6in. diameter sewers, together with concrete manholes, and the construction of a small sewage disposal works. Documents from Harvey, McGill and Hayes, consulting civil engineers, 8 Richmond Road, Exeter, on and after June 30. Deposit £5 5s. (cheques payable to R.D.C.). Tenders by July 21.

***Cricklade and Wootton Bassett, Wilts.**—Asbestos cement sewers, for R.D.C. Deposit £2 2s. Tenders by July 14.

***Kidderminster, Worcs.**—Surface water sewers for B.C. Tenders by July 18.

***Knutsford, Ches.**—Sewerage contract 1 for U.D.C. Deposit £5 5s. Tenders by July 11.

***Llantrisant and Llantwit Fardre, Glam.**—Extensions to Rhiwaeon sewage disposal works for R.D.C. Deposit £5 5s. Tenders by July 24.

***Llantrisant and Llantwit Fardre, Glam.**—Castell-y-Mwnws sewerage scheme for R.D.C. Deposit £2 2s. Tenders by July 24.

***Marlow, Bucks.**—Marlow sewerage, contract 8, for U.D.C. Deposit £3 3s. Tenders by July 31.

Oundle and Thrapston, Northants.—Titchmarsh sewerage and sewage disposal, for R.D.C., including the laying of approximately 4,000yd. of concrete and stoneware sewers of 12in., 9in. and 6in. diameter, the construction of sewage disposal works, the laying of house drainage connections and the reinstatement of road surfaces. Documents from the offices of Pick, Everard, Keay and Gimson, consulting engineers, 6 Millstone Lane, Leicester. Deposit £5 5s. Tenders by July 18.

***St. Ives, Hunts.**—Houghton Road sewer, S.30, contract 2, for B.C. Deposit £5 5s. Tenders by July 12.

***Seaford, Sussex.**—Sewerage works for U.D.C. Deposit £3 3s. Tenders by July 15.

Stroud, Glos.—Stratford Park swimming pool—construction of the following for U.D.C.: 315 lin. yd. approximately 4in. and 6in. s.g.w. pipes, 20 lin. yd. approximately 6in. cast-iron pipes and manholes, together with minor alterations to the pool circulating pipes. Applications to the Engineer and Surveyor, Council Chambers, High Street, Stroud. Tenders by July 24.

Tipton, Staffs.—Culverting of Gospel Oak watercourse for a length of approximately 200 lin. yd. with 45in. diameter precast concrete tubes, together with brick manholes and other incidental works for B.C. Documents from the Borough Engineer and Surveyor, Municipal Buildings, Sedgley Road West, Tipton. Deposit £2 2s. (cheques payable to Corporation). Tenders by July 5.

***Walton-le-Dale, Lancs.**—Sewerage disposal works, for U.D.C. Deposit £5 5s. Tenders by August 22.

***Worksop, Notts.**—Harworth sewerage scheme, contract 2, for R.D.C. Deposit £3 3s. Tenders by July 18.

STREET LIGHTING

Carlisle, Cumb.—Following works for City Council: (1) Class A lighting, 1961—supply and erection of 40 steel lighting columns, together with lanterns, 250-W M/V lamps, wiring and control gear; (2) Morton stage IV—supply and erection of 14 class A concrete columns, together with lanterns, 250-W M/V lamps, wiring and control gear, and 48 class B concrete columns, sodium lanterns, 60-W lamps, wiring and control gear; (3) class B gas conversion and housing estates footpath lighting, erection and wiring of 142 class B lighting units with steel columns. Documents from City Surveyor, 18 Fisher Street, Carlisle. Tenders by July 3.

Friern Barnet, Middx.—Removal of 88 steel columns, and the erection of 88 group B concrete columns, together with the installation of lanterns, gear, etc., for U.D.C. Documents from the Engineer and Surveyor, Town Hall, N.11. Tenders by July 4.

***Ilford, Essex.**—Street lighting, group "B", for B.C. Deposit £2 2s. Tenders by July 25.

***Wortley, Yorks.**—Street lighting, for R.D.C. Tenders by August 9.

INTERNATIONAL CONTRACTS

***Hong Kong.**—Plover Cove and Hebe Haven water scheme for Hong Kong Government. Deposit £25. Tenders by Sept. 1.

***Paris.**—Construction and equipment of a building for U.N.E.S.C.O. Apply by July 31. Tenders by Oct. 1.

AWARDS

BUILDING AND DECORATING

(See also Housing Schemes)

Accrington, Lancs.—External painting of 40 dwellings on the Spring Hill estate and 102 houses and flats on the Dunnyshope estate for B.C.—Raymond Long (Preston), Ltd., Hunt Street, Preston, £580, and Keane and Whalley, Accrington, £1,204, respectively (recommended).

Ayrshire.—Erection of a factory at Irvine for Skefko Ball Bearing Co., Ltd., Leagrave Road, Luton, Beds. Elliott, Cox and Partners, architects, 172 Buckingham Palace Road, London, S.W.1—Neville, Dundas and Whitson, Ltd., 21 Blythwood Square, Glasgow. Estimated cost £2,500,000. Work commenced.

Bedford.—Following for B.C.: Final completion works, contract 3, for the erection of the municipal office block—A. T. Chown and Co., Ltd., 21 Chilworth Street, London, W.2, £260,064 (recommended, subject to Ministry approval).

External redecoration of Goldington Road S.M. Junior and Infants' School—F. and P. King and Sons, Ltd., £946; external and partial internal decoration of Silver Jubilee Girls' and Boys' S.M. School—J. L. Greenwood, 28 Pratt Road, Rushden, Northants, £1,480 and £1,123, respectively (recommended).

Bethnal Green.—Adaptations and extensions at Daneford County Secondary Boys' School for L.C.C. Edward Armstrong and Frederick MacManus, architects, 28 Gloucester Place, London, W.1—J. M. Hill and Sons, Ltd., Heather Park Drive, Wembley, Middx., £435,320 (accepted); Patman and Fotheringham, Ltd., £436,211; Griggs and Son, Ltd., £438,700; Tersons, Ltd., £446,449; A. T. Rowley (London), Ltd., £449,570; W. J. Simms, Sons and Cooke, Ltd., £453,671; J. Jarvis and Sons, Ltd., £453,890; Thomas and Edge, Ltd., £455,300; M. J. Gleeson (Contractors), Ltd., £461,923; Kirk and Kirk, Ltd., £464,723.

Bolton, Lancs.—Following for B.C.: Erection of 10 brick garages at Dunoon Drive—Direct Labour, estimated cost £1,923; final instalment of the re-roofing of the Carlton Street garage—Walter Gregory (Bolton), Ltd., 145 Fletcher Street, Bolton, estimated cost £4,350; supply and erection of two revolving doors at main entrance to Central Library and Museum—T. B. Colman and Sons, Ltd., 6 Drapers Gardens, London, E.C.2 (all recommended).

Bristol.—Erection of new premises at The Horsefair and Bond Street (for use by the South Western Gas Board) for Ravenscroft Properties, Ltd.—W. Cowlin and Son, Ltd., Stratton Street, Bristol. Fewster and Partners, architects, 22 Conduit Street, London, W.1, in conjunction with Alexander Beckingsale and Partners, 36 Whiteladies Road, Bristol, 8. Work just commenced.

Bromley, Kent.—Alteration and decoration of 77 Tweedy Road, for B.C.—Messrs. Betram, 1a Recreation Road, Bromley, £1,994 (recommended).

Bromsgrove, Worcs.—Erection of a three-storey house having a superficial area of approximately 3,700 sq. ft.—Dalbuckirk, Ltd., New Street Chambers, New Street, Birmingham, 2, £25,919 (accepted); J. and A. Brazier, Ltd., £26,063; William Weaver, Ltd., £26,252; Mackee and Rodway, Ltd., £27,179.

Camberwell.—Rebuilding of Elfrida Rathbone Secondary School at Reddins Road, for L.C.C.—T. R. Roberts (Builders), Ltd., 2 Devonshire Road, London, S.E.23, £74,419 (accepted); H. C. Horswill, Ltd., £77,234; Galbraith Bros., Ltd., £77,881; Thomas and Edge, Ltd., £79,620; Stewart and Partners, Ltd., £79,963; W. J. Marston and Son, Ltd., £79,986.

Carlisle, Cumb.—Provision of workshops, etc., at Technical College for E.C. Buckland and Haywood, architects, Norwich Union Chambers, Congreve Street, Birmingham—John Laing Construction, Ltd., Dalston Road, Carlisle. Estimated cost £12,000.

Congleton, Ches.—Painting of 135 houses for B.C.—A. J. Pass and Sons, Antrobus Street, Congleton, £3,048.

Coventry.—Demolition of existing bank premises at Fletchamstead Highway, in two phases, and erection of new structure, in two phases for Barclays Bank, Ltd. The work comprises tanked basement with part single storey and part two storey above. The building will be of steel frame construction, with precast concrete beam floors and roof, with brick infilling to steel frame—Higgs and Hill, Ltd., Crown Works, South Lambeth Road, London, S.W.8, estimated cost £69,000. P. W. J. Neale, architect, 224 Hagley Road, Edgbaston, Birmingham, and Silk and Frazier, quantity surveyors, 35 Portland Road, Edgbaston, Birmingham.

Dodworth, Yorks.—Painting of 106 houses at Intake Crescent, house and shop at 92 Queen's Drive, and the Council Offices, for U.D.C.—C. Swift, Barnsley, £1,182 (accepted); A. Clack, £1,785; A. K. Hunter and Son, £1,398; Lawford and Pleasant, £1,363.

Dundee.—Erection of Trades College at the junction of Kingsway and Old Glamis Road for City Council—Charles Gray (Builders), Ltd., 4 Francis Street, Dundee (recommended). Estimated cost £800,000. Work is expected to start this month.

Faling, Middx.—External painting of council dwellings for B.C. Group 1—Griffin Bros., 256 Tokington Avenue, Wembley, £4,192; Groups 2, 4, 5, 6 and 7—Haymills (Contractors), Ltd., Hanger Green, London, W.5, £2,800, £9,048, £2,295, £1,678 and £2,578, respectively; Group 3—E. R. Blackburn, London, N.W.10, £2,952 (recommended).

Fairfworth, Lancs.—Additions to Boys' Secondary School for Lancs. Co. E.C.—G. and J. Seddon, 3 Manchester Road West, Little Hulton, Lancs., £189,647.

Gosport, Hants.—Following in connection with the erection of a maintenance building and coal store in the Clarence Square area for B.C.: Site works—Warings (Contractors), Ltd., Portsmouth, £2,175; fencing—J. B. Corrie (Flectella), Ltd., Petersfield, £279; precast concrete retaining wall sections (7ft. high sections at 59s. per ft., angle sections 50s. each)—Marley Concrete, Ltd., Sevenoaks, estimated cost £690 (recommended).

Greenwich.—Supply and erection of a block of six garages adjoining the old cleansing station at Tunnel Avenue Depot for B.C.—Bell and Webster, Ltd., Essex Road, Hoddesdon, Herts., £905 (recommended).

Guildford, Surrey.—Erection of a shop and flat at Bellfields for B.C.—A. W. Middleton and Co., Woking, £9,680 (recommended, subject to Ministry approval).

Hexham, Northumb.—Erection of Council chamber for R.D.C. W. Dixon and Son, architects, 1 Collingwood Street, Newcastle upon Tyne—T. D. Bird and Co., Ltd., 13 Hencotes, Hexham, £13,685.

Isle of Man.—Erection of waiting hall at Douglas Harbour, for the Isle of Man Harbour Board—McCormick and Davies, Ltd., Peel Road, Braddan, Isle of Man, £47,206. Davidson, Marsh and T. H. Kennaugh, 16 Athol Street, Douglas, Isle of Man, are the architects, and E. W. H. Gifford and Partners, Carlton Lodge, 16 Carlton Crescent, Southampton, are the consulting engineers for the scheme. Work to commence September.

Islington.—Extensions and improvements at Archway Secondary School for L.C.C.—Patman and Rotheringham, Ltd., 15 Islington Park Street, London, N.1, £235,711 (accepted); Griggs and Son, £238,900; A. T. Rowley (London), Ltd., £240,596; Rowley Bros., Ltd., £241,931; M. J. Gleeson (Con-

tractors), Ltd., £244,436; The Demolition and Construction Co., Ltd., £249,690; Leslie and Co., Ltd., £250,385.

Keynsham, Som.—Erection of a sports pavilion, comprising two changing rooms, stores and toilets, together with ancillary work at Norman Road, Saltford, for U.D.C.—A. W. Gibbs and Son, 24 Anstey's Road, Hanham, Bristol, £4,283. Work commenced.

Lambeth.—Conversion and improvement of block L into 14 flats at Peabody estate, Rosendale Road for Peabody Donation Fund—Barry High, Ltd., Cranborne Road, Potters Bar, Middx., £10,917 (negotiated tender).

Supply and erection of steel partitioning in new offices at 234-244 Stockwell Road, for B.C.—Sankey Sheldon, Ltd., 46 Cannon Street, London, E.C.4, £1,295 (recommended).

Lancashire.—Second phase of the Wade Deacon Grammar School for Co. E.C.—David Lesley (Contractors), Ltd., 20 Tithe-barn Street, Liverpool, £1,572,58.

Leamington Spa, War.—Erection of 20 garages and a refreshment kiosk at Shrubland recreation ground for B.C.—Hurst and Aitken, Thornby Avenue, Kenilworth, £6,822 (recommended).

Lewisham.—Following for B.C.: Supply and erection of a further 350 timber sheds and construction of the concrete bases for use at housing estates—R. King (Lewisham), Ltd., 225 Lewisham High Street, London, S.E.13, £7,057, and Direct Labour, £1,452; internal redecoration of 154 dwellings at Elliot Place and 149 at Lawn Terrace—H. and C. Decorations, Ltd., Woolwich High Street, London, S.E.18, £9,350, and P. J. Hartel (London), Ltd., 1 Montague Street, London, W.C.1, £8,897 respectively (recommended).

Erection of 15 garages at Lee Church Street housing scheme—Direct Labour, £2,680 (recommended, subject to Ministry approval).

Liverpool.—Extensions to the I.M. Marsh College of Physical Education for Lancs. Co. E.C.—R. Costain and Sons (Liverpool), Ltd., Barlows Lane, Fazakerley, Liverpool, 9, £461,008.

London.—Extension and alterations at Fishmongers Hall for The Worshipful Company of Fishmongers, F. J. Wills and Son, 199 Piccadilly, London, W.1—Higgs and Hill, Ltd., Crown Works, South Lambeth Road, London, S.W.8. Estimated cost £70,000.

London.—Following for City Corporation: Maintenance, repair and improvement at the Mansion House—Mullen and Lumsden, Ltd., 41 Eagle Street, London, W.C.1, £12,838 (recommended); Trollope and Colls, Ltd., £14,899; John Greenwood, Ltd., £14,449; Gee, Walker and Slater, Ltd., £13,980; Holliday and Greenwood, Ltd., £13,475; Ashby and Horner, Ltd., £12,866.

Repairs to 1-27 (odd) and 32-50 (even) Bardwell Street, which form part of the estate to the north of the Metropolitan Cattle Market—R. G. Jones, 86a Yerbury Road, London, N.19, £5,937 (recommended); G. Newton (Builders), Ltd., £7,512; J. Cole (Painting), Ltd., £7,433; S. M. Rintoul, Ltd., £6,870; L. B. Levitt and Co., £6,056.

External repainting, etc., at Lammas Green estate—J. C. W. Catley and Co., Ltd., Selby Works, Selby Road, London, S.E.11, £2,853 (recommended); Heeps Willard and Co., Ltd., £3,370; Falkus Bros., Ltd., £3,274; W. G. Beaumont and Son, £3,140.

Repainting the Holborn Viaduct bridges over Farringdon Street and Shoe Lane—W. G. Beaumont and Son, Blondin Street, London, E.3, £4,281 (recommended); Chas. S. Foster and Sons, £11,479; Anderson and Brown (Bishopsgate), Ltd., £11,013; Heeps Willard and Co., Ltd., £10,908; Holbrook (Builders), Ltd., £7,158; Falkus Bros., Ltd., £6,278; C. and T. Painters, Ltd., £6,043.

Luton, Beds.—Following for B.C.: Alterations and additions to shops at Wipperley Ring—Direct Labour.

Improvements to 20 houses at Cannon Lane—W. Gutteridge, Luton, £10,570; provision of (a) bases and finishings and (b) temporary hatted classrooms at Rotheram Secondary, Ramridge Junior and Norton Road Junior Schools—S. Gilbert, Ltd., 104 Ashcroft Road, Stopsley, Luton, (a) £2,823 and (b) £2,880; provision of roof coverings at the slaughterhouse—Permanite, Ltd., Permanite Works, Hertford, £769.

Maidstone, Kent.—Following for B.C.: Construction of a multi-storey car park at Medway Street—Sir Robert McAlpine and Sons, Ltd., 80 Park Lane, London, W.1, £104,620 (recommended, subject to planning approval).

Erection of Fant Hall—P. A. Barden and Sons, Ltd., Weaving House, Ashford Road, Maidstone, £9,767 (recommended, subject to Ministry approval, subject to reductions) Re-roofing flats at Elizabeth Close—

H. Kemp (Asphalt), Ltd., 5 Birling Road, Tunbridge Wells, £902, (recommended).

Newburn, Northumb.—Erection of six lock-up shops at Mount Pleasant estate, Throckley, for U.D.C.—Direct Labour.

Newcastle upon Tyne.—Structural steelwork for new boilerhouse at General Hospital for Regional Hospital Board—Wright Anderson and Co., Ltd., Coulthards Lane, Gateshead, £12,966.

Perth and Kinross.—Various trades for erection of a new school at Letham, Perth, for Joint C.C. Ian A. Moodie, county architect; Ross, Barker and Wallace, heating consultants, 50a Frederick Street, Edinburgh—Excavator, concrete and brick—P. Graham and Sons, Main Street, Bankfoot; carpenter and joiner—P. Graham and Sons, Main Street, Bankfoot; plumber work—Frew and Stewart, Ltd., 6 Mill Street, Perth; roughcast work—Jas. Menzies and Sons, 289 High Street, Perth; plaster and tiler—James S. Laburn, 40 Leslie Street, Blairgowrie; glazier—Donald and Smith, 23 Baltic Street, Dundee; felt roofing—W. Briggs and Sons, Ltd., East Camperdown Street, Dundee; floor covering—J. N. Stewart and Son, 141, King Street, Aberdeen; electrician—James Scott and Co., Ltd., 6-12 Princes Street, Perth; metal windows—Crittall Manufacturing Co., Braintree, Witham, Essex; heating installation—Underhill, Ltd., 5 York Place, Edinburgh, 1; concrete frame—Scottish Construction Co., Sighthill Industrial Estates, Edinburgh.

Preston, Lancs.—Improvements at Our Lady and St. Gerard's R.C. Church, Tardy Gate, Lostock Hall—Hardmans (Builders) (Kirkham), Ltd., Best Street, Kirkham, Lancs. Wilfrid C. Mangan, architect, 2 Ribblesdale Place, Preston, and A. S. Wilson and Partners, 8 Storey's Gate, Westminster, S.W.1, are the quantity surveyors. Work commenced.

Rhymney, Mon.—Erection of a public convenience, bus shelter and tool shed at The Green, Abertyswg, for U.D.C.—W. Miles and Sons, Ltd., Mount Pleasant Road, Ebbw Vale, Mon., £1,802.

Ripon, Yorks.—Erection of public conveniences and a bus shelter at Harrogate Road, for B.C.—Allton and Co. (Contractors), Ltd., rear of Mayfield Grove, Harrogate, £1,094 (recommended).

Rugby, War.—Erection of an old people's home, caretaker's bungalow, etc., at Oliver Street for C.C.—Higgs and Hill, Ltd., Crown Works, South Lambeth Road, London, S.W.8, estimated cost £60,000. Loveday and Davis, architects, 42 Regent Place, in collaboration with E. Davies, county architect, and H. Williamson, quantity surveyor, 10 St. Matthew's Street.

St. Marylebone.—Erection of a new building at Oxford Street for Barrett Street Technical College for L.C.C.—Taylor Woodrow Construction, Ltd., Ruislip Road, Southall, Middx., £508,797 (accepted); Dove Bros., Ltd., £512,508; Rush and Tompkins, Ltd., £514,562; Wates, Ltd., £515,505; Leslie and Co., Ltd., £515,890; Marshall-Andrew and Co., Ltd., £517,060; Rowley Bros., Ltd., £518,666; Kirk and Kirk, Ltd., £519,908; M. J. Gleeson (Contractors), Ltd., £520,309; Griggs and Son, Ltd., £423,200; Y. J. Lovell (London), Ltd., £531,800.

St. Marylebone.—Construction of reinforced concrete frame for a five-storey block of flats, basement and ramp, and connecting link, at 15-19 Crawford Place—The Modular Concrete Co., Ltd., 1258 London Road, Norbury, London, S.W.16, £16,284. R. Seifert and Partners, architects, London, W.C.1; Thompson and Alexander, quantity surveyors, London, S.W.7; Myton, Ltd., main contractors, London, W.5.

Salisbury and Marske, Yorks.—Repainting of 240 existing Council houses for U.D.C.—Edwin Turner, Ltd., 190 Lintorpe Road, Middlesbrough, Yorks., £2,538.

Southwark.—Following for B.C.: Erection of 24 precast concrete garages at 92-116 Larcom Street—William Willett (Contractors), Ltd., Sloane Square, London, S.W.1, £5,483 (recommended, subject to Ministry approval); J. A. Dumayne and Co., Ltd., £5,577; Greenaway and Son, Ltd., £5,625; Sigley Bros., Building Contractors, £6,337; Thomas and Edge, Ltd., £6,858.

External painting of flats at Nelson Square Gardens and at Kean and Jephson Houses, Doddington Grove—Collins (Contractors), Ltd., 14 Consort Road, London S.E.15, £6,730, and Stegradou (London), Ltd., 69 Knights Hill, London, S.E.21, £2,898, respectively.

Stirling.—Erection of children's home, Coxithill, Torbrex, for B.C.—D. and J. Ogilvie (Builders), Ltd., 16 Park Terrace, Stirling, £18,976. Walter H. Gillespie, burg architect and planning officer; Wilkinson and Lowe, quantity surveyors, 12 Irvine Place, Stirling.

Sunderland, Dur.—Erection of automatic telephone exchange at Grindon Lane, Hynton, for the Post Office—Matthew Wynn, Ltd., 40 Nile Street, Sunderland.

Additions to Mill View Social Club and Institute, Fulwell. Roy Eggleston, architect, 3 Grange Crescent, Sunderland—J. and T. Parker, Ltd., Commercial Road, Sunderland. Estimated cost £11,000.

Tidfield, Northants.—Re-building St. John's Approved School for the Home Office. Robert Marriott, Ltd., Rushden, £275,000. Work commenced.

Tonbridge, Kent.—Erection of a south wing at Tonbridge School, comprising a library, three classrooms and a housemaster's residence for the School Governors—James Longley and Co., Ltd., Crawley, Sussex. Estimated cost £100,000. William Holtord and Partners, Adelaide House, London Bridge London, E.C.4 are the architects; Davies, Bill and Partners, 15 George Street, Croydon, Surrey, are the quantity surveyors, and T. Dunwoody and Partners, 25 Bruton Lane, London, W.1, are the heating and electrical engineers for the scheme.

Totnes, Devon.—External painting of 1-24 Station Road and 1-35 Swallowfields for B.C.—F. L. Johnson, 23 Lockyer Street, Plymouth, £816 and £1,015, respectively (recommended).

Tycor, Eire.—Erection of a factory at Tycor, Watford, for Munster Chipboard, Ltd. J. Colman Healy, quantity surveyor, 46 Upper Mount Street, Dublin; R. and W. Cunningham, architects, 85 The Quay, Watford—John Sisk and Son, Ltd., Capwell Works, Douglas Street, Cork.

Uttoxeter, Staffs.—External painting of 297 dwellings in three separate contracts, for U.D.C. Contract (1) 88 houses and (2) 107 houses—Seddon (Stoke), Ltd., 55 Duke Street, Fenton, Stoke-on-Trent, £936 and £1,233, respectively; (3) 105 houses—J. H. Tilstone, 397 Uttoxeter Road, Normacot, Longton, Stoke-on-Trent, £944. Work to commence July 1.

Uxbridge, Middx.—Improvements to the Swan and Bottle Hotel by the provision of a new restaurant and extensions to the car park for the Berni Catering Group. Stewart and Hendry, architects, 90 Fenchurch Street, London, E.C.3—W. S. Try, Ltd., High Street, Cowley, Uxbridge. Estimated cost £25,000.

Wandsworth.—External painting of the following for B.C.: Anderson House—Spinks and Denning, Ltd., 8 Norfolk Road, London, S.W.19, £760; Alfred Hurley and Sutton, Courtenay Houses—Allard and Saunders, Ltd., 73 Upper Richmond Road, London, S.W.15, £796; 1-47 (odd) Beaumont Road and 2-96 (even) Urmston Drive, and communal laundries at 14-108 (even) Southmead Road—Franks and Co. (Builders), Ltd., 287 Putney Bridge Road, London, S.W.15, £1,212; Bembridge, Binstead, Bowyer and Domelton Houses—Geo. Jones and Son (Contractors), Ltd., 27b Kensington Church Street, London, W.8, £4,217; Fairfield Drive and Bentley, Broadhinton, Lambourn and Orlando Courts—J. Garrett and Son, Ltd., Cathles Road, London, S.W.12, £1,640 and £713, respectively; 1-19 (odd) and 2-50 (even) Castlecombe Drive and 1-62 (consecutive) Potterne Close and 179-225 (odd) Burntwood Lane and 1-8 (consecutive) Openview—Franks and Co. (Builders), Ltd., £1,987 and £543, respectively; Dewar, Jean and Robertson Houses—R. W. Smale and Co., Ltd., 13 Thrall Road, London, S.W.16, £2,308; 1-84 (consecutive) Fieldview—M. Howard (Mitcham), Ltd., Wandle House, London Road, Mitcham, £1,966 (recommended).

Westminster.—Modernisation of the administrative offices at Cockspur Street, S.W.1, for Sun Life Assurance Co. of Canada—Holland & Hannen and Cubitts (Great Britain), Ltd., 258 Gray's Inn Road, London, W.C.1; Scott and Barlow, architects, 10 Gray's Inn Square, London, W.C.1; Oscar Faber and Partners, consulting engineers, 4 Verulam Buildings, W.C.1; John Leaning and Son, quantity surveyors, 28 John Street, W.C.1. Estimated cost £260,000.

Whitehaven, Cumb.—Stripping and re-tiling the roofs of 100 houses at Bransty Woodhouse and Kells for B.C.—John W. Burrow and Son, 3 Johnston Street, Workington. £4,628.

Woolwich.—Following for L.C.C.: Extension and improvement of Shooter's Hill County Secondary Boys' School—Henry Kent (Builders), Ltd., 51 Beacon Road, London, S.E.13, £50,875 (accepted); W. J. Eaglen, Ltd., £51,263; Truett and Steel, Ltd., £52,111; Poolman (Builders), Ltd., £52,223; T. R. Roberts (Builders), Ltd., £52,580; Wm. J. Jerram, Ltd., £52,828; Marshall, Andrew and Co., Ltd., £53,260; Gray, Conoley and Co., Ltd., £53,300; Thomas McInerney and Sons, Ltd., £57,198.

Provision of additional accommodation at the Polytechnic—Thomas and Edge, Ltd., 52 MacBean Street, London, S.E.18, £299,500 (accepted); Galbraith Bros., Ltd., £300,826; Bernard Sunley and Sons, Ltd., £316,750; Marshall-Andrew and Co., Ltd., £320,547; Kirk and Kirk, Ltd., £329,978; Griggs and Son, Ltd., £334,599; The Demolition and Construction Co., Ltd., £341,200; Halse and Sons, Ltd., £344,743; W. J. Simms, Sons and Cooke, Ltd., £348,461.

CLOTHING AND TEXTILES

Stourbridge, Worcs.—Supply of 310 sets of overalls, 40 sets of painters' overalls and four sets of boiler suits for B.C.—Messrs. Hadleys, Oldbury, 32s. 2d., 31s. 8d. and 25s. 5d. per set (recommended).

Wandsworth.—Supply of the following for B.C.: Supply of 520 donkey jackets—Harringdale Manufacturing Co., Ltd., £800; 1,000 bib-and-brace overalls and dungaree jackets—Railway and General Stores Contractors (1953), Ltd., 675 Salisbury House, London, E.C.2, £1,637; 108 pairs of boots and shoes—Holdfast Footwear, Ltd., £295 (recommended).

DEMOLITION

Bedford.—Demolition of 65, 67, 69 and 71 Muswell Road, for B.C.—Readers' Demolitions, Northampton, £110 less £10 for any salvaged material (recommended).

Kidderminster, Worcs.—Demolition of 8-14 Waterloo Street for B.C.—Daniel Murphy, Laurel Villa, Bowling Green, Powick, Worcester, £68 (recommended).

Lambeth.—Demolition of 12 Bellefields Road, for B.C.—Frank Valori, Ltd., 34 Christchurch Road, London, S.W.2, £95 (recommended).

London.—Demolition of 93, 97 and 99 Cheap-side, 31 and 33 Lawrence Lane, and 39 King Street (part of redevelopment unit 11A) for City Corporation—Willment Bros., Ltd., Baltic Wharf, Waterloo Bridge, London, S.E.1, £7,711 (recommended); Mowlem (Civil Engineering), Ltd., £21,041; Goodman Price, Ltd., £17,022; Charles Griffiths, Ltd., £14,016; Fitzpatrick and Son (Contractors), Ltd., £8,598.

Luton, Beds.—Demolition of Regent Mill for B.C.—M. Cunningham and Son, Ltd., 30 Brighton Road, Birmingham, 12, £3,031.

Maidstone, Kent.—Demolition of 23 Albert Street, for B.C.—R. K. Simmonds, 63 Hastings Road, Maidstone, to pay council £10 (recommended).

Rhymney, Mon.—Demolition of 22 stone-built houses and other premises situated at Red House Row and Carno Pit Row, Rhymney, for U.D.C. W. T. Bebb, architect, Manor House, Bank Square, Chepstow—G. A. Meade and Co., 4 Three Houses, Sion Street, Radcliffe, Lancs., £210.

Southwark.—Demolition of 23 and 25 Surrey Row at Nelson Square (extension) housing site, for B.C.—Gorst and Co., Ltd., 33 Floyd Road, London, S.E.7, £915 (recommended); St. Mary's (Contractors), Ltd., £960; H. Cox and Sons, Ltd., £958.

ELECTRICAL

Bolton, Lancs.—Electrical installation at Smithills Technical School for B.C.—Engineering Service Co., Albion Works, Bridgeman Street, Bolton (recommended).

Burton-upon-Trent, Staffs.—Construction of the superstructure of the Drakelow C Power Station for the Central Electricity Generating Board—Mitchell Construction Co., Ltd., Peterborough. Estimated cost £1,200,000.

C.E.G.B.—The Central Electricity Generating Board have placed contracts during the past month for power stations, transmission lines and transforming stations amounting in the aggregate to approximately £4,730,000. The principal contracts include:

Blyth B power station: internal and external painting—Bitulac, Ltd.; steel frame and cladding for 275-kV switchgear compound—James W. Ellis and Co., Ltd.; ash-handling transporter—Babcock and Wilcox, Ltd.

Thorpe Marsh power station (near Doncaster): high pressure pipework and valves for turbo-alternator 2 and boiler 2—Aiton and Co., Ltd.

Barton power station (Manchester): 33-kV switchgear—Associated Electrical Industries, Ltd.

Carrington power station: modifications to boilers—John Brown Land Boilers, Ltd.

Drakelow C power station (near Burton-upon-Trent): turbine-house roof steelwork—Carter Horsely (Engineers), Ltd.; superstructure—The Mitchell Construction Co., Ltd.; cooling tower foundations—Peter Lind and Co., Ltd.; condensing plant for

units 9 and 10—Hick, Hargreaves and Co., Ltd.

Tilbury B power station: starting and standby boiler feed pumps for turbo-alternators 7 to 10—Sulzer Bros. (London), Ltd.

Ashford sub-station: two 45-MVA, 132-33-kV transformers—Bonar, Long and Co., Ltd.

Southern Cross and Fishergate sub-station: 132-kV switchgear—The English Electric Co., Ltd.

Poplar.—Electrical re-wiring at 15 houses, Baldoek Street and Ridgdale Street for B.C.—London Electricity Board, 255/279 Cambridge Heath Road, London, E.2, £1,099 (recommended).

Lewisham.—Following electrical installations for B.C.: 34 houses, 30 flats and 19 garages at Elmer Road Group—Brakefield, Ltd., 286 Sangle Road London, S.E.6, £4,055; eight flats and nine garages at St. Germans Road, 10 maisonnettes and 10 shops at Ladywell Park, fifth stage, and 32 flats and 17 garages at Corona Road—Reid and Barrow, Ltd., 139 Masons Hill, Bromley, Kent, £595, £661 and £1,968, respectively (recommended).

Luton, Beds.—Installation of electricity in 70 old people's dwellings at Lewsey estate for B.C.—Williams and Richardson, 174 Biscot Road, Luton, £6,339.

Norwich.—Electrical services for central boiler house at Little Plumstead Hospital for the East Anglian Regional Hospital Board—Norwich Electrical Co., Ltd., 1 Exeter Street, Norwich, £5,494.

Sheffield.—Supply of transformers, switchgear and other electrical equipment for the Yorkshire-Derwent water scheme for City Council—Bruce Peebles and Co., Ltd., Edinburgh, £54,000.

FENCING

Kingston-upon-Thames, Surrey.—Renewal of fencing at Norbiton estate for B.C.—R. W. Rickett (Fencing), Ltd., 27 Graham Avenue, Broxbourne, Herts., £38,613 (recommended).

Leamington Spa, War.—Provision of fencing at several parks and recreation grounds for B.C.—Durafencing, Ltd. Birmingham, £829 (recommended).

Mitcham, Surrey.—Erection of additional fencing in connection with the Phipps Bridge redevelopment scheme for B.C.—A. A. Stuart and Sons (Contractors), Ltd., £804 (recommended, extension of contract).

Southwark.—Supply and erection of wrought-iron fencing for the existing boundary wall along Colombo Street frontage and for the new boundary wall along Tress Place and Rennie Street frontage for B.C.—George Dance, Ltd., 235 Blackfriars Road, London, S.E.1, £3,539 (recommended); J. A. Dumayne and Co., Ltd., £3,717; W. Wright, Ltd., £3,860.

Sowerby Bridge, Yorks.—Supply and erection of approximately 420 lin. yd. of chain link fence and gates at Beech Recreation Ground for U.D.C.—Darlington Fencing Co., Ltd., Doncaster, £614. Work commencing September.

Wandsworth.—Following for B.C.: Repair, redecoration and renewal of fences, gates and cold frames at Putney Vale Cemetery—C. Crook and Sons, Ltd., £599 (recommended); T. Peyton and Sons, Ltd., £737; Anglo Scottish Construction Co., Ltd., £778; Howard Brothers and Strong, Ltd., £942; Allard and Saunders, Ltd., £1,018; C. Ash and Son, Ltd., £1,047.

Replacement of the existing wooden fence between Streatham Vale Park and properties in Abercain Road with one of precast concrete—Metropolitan Concrete Works, Ltd., Imber Court, East Molesey, Surrey, £1,366 (recommended); Truscott Fencing and Concrete Products, Ltd., £1,532; Allen (Fencing), Ltd., £1,550; Permafence, Ltd., £1,659.

West Kesteven, Lincs.—Provision of 269 yd. of 6ft. high 2in. mesh galvanised chain link fencing, and the necessary supports and strainers for fencing the Great Gonerby Sewage Works, J. Dean, surveyor—Fencraft Engineering, Ltd., Gonerby Works, Great North Road, Grantham, £489.

GAS AND WATER SUPPLY

Belfast.—Triplification of the Bloody Bridge and Glasdrumman siphons, involving laying and jointing of approximately 278 yd. of 36in. steel pipes at Ballaghany Upper and Glasdrumman, Co. Down, for the Belfast City and District Water Commissioners—F. J. Charleton, Ballymartin, Newry, Co. Down.

Bolton, Lancs.—Following for B.C.: Re-laying the remaining length of trunk main Dingle clear water tank to Egerton—Direct Labour, estimated cost £10,000; construction of New Hayes service reservoir—Lomount Construction Co., Ltd., Horton

Road, Colnbrook, Slough, Bucks. (both recommended).

Dundee.—Construction of an elevated water tower at Menzieshill for Water Committee—Brydon Construction Co., Ltd., Drummy Works, Cairnsmore Road, Glasgow, W.5, £40,119.

Ennerdale, Cumb.—Laying a water main from Winscales reservoir to Gosforth for R.D.C.—Border Engineering Co., Ltd., Coach Road, Whitehaven, £35,568.

Kilkeel, Down.—Construction and completion of two stream intakes, together with ancillary manholes, pipes and specials, at Attical, for R.D.C. R. Ferguson and S. McIlveen, consulting engineers, 15 College Gardens, Belfast, 9—James McMullan and Son, Newcastle Street, Kilkeel, £4,139 (accepted); Dornan Bros., £5,873.

Middlesbrough, Yorks.—Laying of 21in. water main, from Spencer Beck to Wilton West Gate, for the Tees Valley and Cleveland Water Board. T. S. R. Winter, chief engineer—J. O'Dea, Ltd., 145 Otley Old Road, Lawnswood, Leeds, 4.

St. Ives, Hunts.—Provision of mains, etc., contract 3, in connection with the Water Tower, for B.C.—Biggs Wall and Co., Ltd., 22 Godstone Road, Cambridge, £5,980 (recommended, subject to Ministry approval); Preload, Ltd., £9,070.

South Devon.—Erection of a water tower at Prawle for Water Board—Exeter Asphalt and Tarpaving Co., Ltd., Exhibition Way, Pinhoe Trading Estate, Exeter, £8,688.

HARBOURS, PIERS AND SEA DEFENCE WORKS

Portsmouth.—Construction of an embankment across Milton Lake for the Development and Estates Committee—Reed and Mallik, Ltd., Milford Manor, Salisbury, £65,189.

Wallsend, Northumb.—Construction of quay at the Stephenson Street works of Associated Lead Manufacturers, Ltd.—Brims and Co., Ltd., City Road, Newcastle upon Tyne.

HEATING AND VENTILATING

Blackpool, Lancs.—Supply and installation of oil-burning equipment to the existing central heating at the Board's filter house, Hodder Works, Slaidburn, Yorks. (W.R.). for Fylde Water Board—James Mercer (Preston), Ltd., Tulketh Hall Works, Hesketh Street, Preston. Work commencing July.

Jarrow, Dur.—Heating work at new Dunn Street County School, for C.C.—E. Dixon Barker and Sons, West Hartlepool, £3,977.

HOUSING SCHEMES

Ayr.—Private development of houses in the Laigh Glengall scheme—William Govan and Sons, Ltd., 11 Wellington Square, Ayr. Estimated cost £41,000.

Bideford, Devon.—Fifteen houses at Stucley Road for B.C.—R. Harris and Son (Builders), Ltd., Victoria Road, Barnstaple, £25,137 (recommended).

Bolton, Lancs.—Twenty-two dwellings on the Brightmet neighbourhood unit south for B.C.—Direct Labour (recommended, subject to Ministry approval). Estimated cost £41,287.

Cookstown, Tyrone.—Following for U.D.C.: Eight semi-detached and eight old people's dwellings at Monrush housing estate—William Evans and Co., Bellaghy, £19,530.

Fifteen dwellings at Killymoon Street. W. and M. Given, architects, 1. Water-side, Coleraine—Lees and Stewart, Ltd., Queen Street, Magherafelt, £21,887 (accepted); Wm. Evans and Co., £22,272; Banson Bros., £25,239; James Corrigan and Sons, £29,250. Work is expected to start in July.

Cuckfield, Sussex.—Sixty houses at Ashenground Wood, Haywards Heath, for U.D.C.—Orchard and Peir (London), Ltd., Telford Place, Crawley. Work has commenced.

Ennerdale, Cumb.—R.D.C. have approved plans for the erection of 54 houses at rear of Bowthorn Road, Cleator Moor, for the Border Engineering Co., Ltd., Coach Road, Whitehaven.

Glasgow.—One hundred and seventy-four three-apartment houses at Gartloch Road, Garthamlock, for City Council—Direct Labour. Estimated cost £400,000.

Goole, Yorks.—Ten houses and six bungalows on the new housing estate at Rawcliff Bridge for R.D.C.—Kimberley Builders, Featherstone, £17,654, and C. and F. Easton, Goole, £9,177, respectively (subject to Ministry approval).

Islington.—Eight dwellings comprising the 29-30 Colebrooke Row scheme for B.C.—W. J. Simms, Sons and Cooke, Ltd., Sherwood House, Beddington Lane, Croydon, Surrey, £23,721 (recommended, subject to Ministry approval); H. Richardson and Sons, Ltd., £24,302; Rowley Bros., Ltd., £24,446; Patman and Fotheringham, Ltd., £25,472; Walter Lilly and Co., Ltd., £25,636; Allen Fairhead and Sons, Ltd., £26,247.

Kingston-upon-Thames, Surrey.—Twelve old people's dwellings adjoining 22 Gloucester Road for B.C.—W. H. Streeter, 15 Hay Lane,

London, N.W.9, £18,507 (recommended, subject to Ministry approval).

Leamington Spa, War.—Eight flats in four-storeys and a community centre at Edinburgh Crescent for B.C.—T. Bates and Son, Ltd., Warwick Road, Kenilworth, £33,618 (recommended).

Lewisham.—Eight flats and nine garages at 71 St. Germans Road for B.C.—J. A. Proctor, Ltd., 163 Burrage Road, London, S.E.18, £28,136 (recommended, subject to Ministry approval); Henry Kent (Builders), Ltd., £28,328; T. Cutler and Sons, Ltd., £28,402; Walter Gladding and Co., Ltd., £28,555; Thomas and Edge, Ltd., £30,121; Walter Lilly and Co., Ltd., £30,622; Robert Hart and Sons, Ltd., £30,783; Rowley Bros., Ltd., £30,910; A. Roberts and Co., Ltd., £31,184; W. R. Oldham, Ltd., £32,212.

Liverpool.—Following for City Council: Six houses at Wellington Terrace and 88 dwellings and 10 garages at Storrington Avenue, West Derby—R. J. Barton and Sons, Altcar Road, Formby, £19,774 and £197,093, respectively; 28 maisonnettes at Breeze Lane, Walton—Peak Construction (Liverpool), Ltd., Broad Lane, Liverpool, 1, £60,990; six flats at Arundel Avenue and Harrington Road, Toxteth—J. and J. Gallagher and Co., Birchfield Avenue, Widnes, £10,606.

Lossiemouth, Moray.—Four flats, 12 three-apartment and four four-apartment cottages on gap sites at Park Place Church Street and Moray Street for B.C.—Weir Housing Corporation, Ltd., Calder Street Coatbridge, £27,829 (recommended).

Luton, Beds.—Seventy aged persons' dwellings at Lewsey estate for B.C.—John Laing Construction, Ltd., Mill Hill, London, N.W.7, £123,948 (in lieu of previous tender, subject to Ministry approval).

Ryton, Dur.—Seventeen old people's bungalows at Green-side for U.D.C.—Direct Labour.

Sutton and Cheam, Surrey.—Four staff houses at Worcester Park sewage works for B.C.—William Bros. (Carshalton), Ltd., Boston House, 132 Cheapside, London, E.C.2, £10,567 (recommended).

Tavistock, Devon.—Four two-bedroom-type houses and four one-bedroom-type flats with site works at Anderton Lane, Whitechurch, for U.D.C. Rossington and Fogden, architects, Drake Road, Tavistock—E. L. Greening and Sons, Taylor Square, Tavistock, £11,692 (accepted); Philpott and Co. (Builders), Ltd., £14,091.

Turbury, Staffs.—Twenty-five one-bedroom and one two-bedroom bungalows, etc., on

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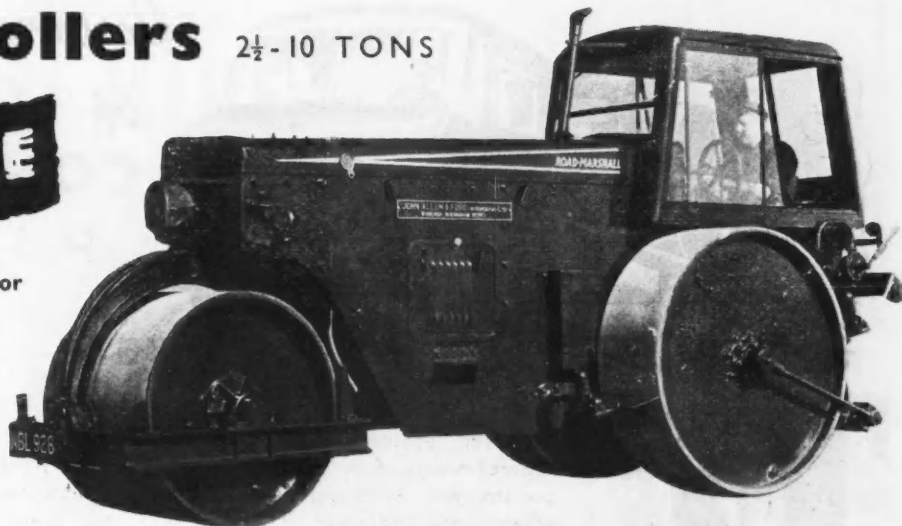
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a site adjacent to Dunstall Road, Barton-under-Needwood, for R.D.C.—V. M. Browne, Tatenhill Lane, Branston, Burton-on-Trent, £38,750, not £34,750 as reported last week.

Whitby, Yorks.—Twelve houses and bungalows at Hinderwell for R.D.C.—F. J. Willis and Son, Hinderwell, £15,160.

MATERIALS AND SUPPLIES

Lewisham.—Following for B.C.: Supply of 500 gully gratings and frames—Mather and Smith, Ltd., Godington Road, Ashford, Kent, £2,850; 95 new large refuse containers and 45 lids—Thomas Marshal and Son, Ltd., Wellington Bridge, Leeds, 12, £1,583. (recommended).

Wandsworth.—Provision of wooden slatted sunblinds to one greenhouse at King George's Park for B.C.—Permafence, Ltd., 225 High Street, London, W.3, £542 (accepted); Tidmarsh and Sons, £940; Burt, Boulton and Haywood, Ltd., £1,036; J. Avery and Co., £1,080.

PLANT AND MECHANICAL TRANSPORT

Bolton, Lancs.—Supply of an Ingersoll Rand static air compressor and two Ingersoll Rand Gyroflo portable air compressors for B.C.—McCreath Taylor and Co., Ltd., 15 Fairfield Street, Bolton, and Vernons Industries, Ltd., Dixon Road, Simonswood, Kirkby, Liverpool, respectively (recommended).

Carlisle, Cumb.—Supply of two refuse collection vehicles for City Council—Myers and Bowman, Ltd., Distington, Harrington, £3,332 (recommended, subject to Ministry approval).

Darlington, Dur.—Supply of three refuse collecting vehicles for B.C.—Minories Garages, Ltd., Darlington, £5,046.

Islington.—Supply of following for B.C.: One Avery 5102 road weighbridge for Ashburton Grove Depot—W. and T. Avery, Ltd., Avery House, Clerkenwell Green, London, E.C.1, £995 (recommended).

Two 50 cu. yd. Pakamatic refuse collection vehicles and one provided with Paladin container emptying equipment—Shelvoke and Drewry, Ltd., Letchworth, Herts., £13,470 (recommended, subject to Ministry approval).

Lambeth.—Supply of the following for B.C.: Four Bedford diesel 3-ton tipping lorries—Keith and Boyle (London), Ltd., 80 Clapham Road, London, S.W.9, £3,850 after deduction of allowance of £486 for four old vehicles; one diesel tractor for towing

refuse trailers—Rootes, Ltd., London, W.1, £913 (recommended).

Luton, Beds.—Supply of one Bedford street lighting platform van and one Bedford tanker wagon, for B.C.—Shaw and Kilburn, Ltd., 546 Dunstable Road, Luton, £766 and £2,028, respectively.

Midhurst, Sussex.—Supply of one Gibson pendulum compressor refuse collector mounted on a suitable chassis for R.D.C.—Wadhams, Ltd., Waterlooville, Hants, £2,423.

Mitcham, Surrey.—Supply of one TW type fore and aft tipper with diesel engine, and one with container hoist gear, for B.C.—Shelvoke and Drewry, Ltd., Letchworth, Herts., £3,005 and £3,495, respectively (recommended).

Southwark.—Supply of a Karrier Bantam tipper with a diesel engine and metal lined body for B.C.—Rootes, Ltd., Barby Road, London, W.10, £1,006 (recommended); Westminster Carriage Co., Ltd., £1,011; Regal Garage, Ltd., £1,007.

Staffordshire.—Supply and erection of one 6-ton and one 2-ton hand-operated overhead travelling crane for the Tittesworth Reservoir Scheme for the Staffordshire Potteries Water Board. C. V. Brown, engineer and manager—Herbert Morris, Ltd., P.O. Box 7, Loughborough, Leics.

Stourbridge, Worcs.—Supply of the following for B.C.: One Dennis dustless refuse collection vehicle—Dennis Bros., Ltd., Guildford, £4,150; one Karrier Blenheim refuse collection vehicle—Lycetts Garage, Ltd., Stourbridge, £2,998; one diesel engine Morris Commercial 3-ton lorry, including tipping body, hydraulic gear, etc.—Wollaston Garage, Ltd., Bridgnorth Road, Wollaston, Stourbridge, £934, including an allowance for old lorry (recommended).

Wandsworth.—Supply of the following for B.C.: Two barrier-type refuse collection vehicles, complete with Scammel tractors—Glover, Webb and Liversidge, Ltd., 561 Old Kent Road, London, S.E.1, estimated cost £6,000; two Paladin-type vehicles with Eagle bodies on Bedford chassis—Kingston Hill Motor Works, Ltd., 33 Kingston Hill, Kingston-upon-Thames, £7,626 (recommended).

PLAYING FIELDS, PARKS, ETC.

Bolton, Lancs.—Preparation of playing fields at the St. Patrick's R.C. Primary School for B.C.—Maxwell M. Hart (Glasgow), Ltd., 74 Corporation Street (Manchester, 4 (recommended). Estimated cost £3,300.

Ealing, Middx.—Development of housing open spaces for B.C.—J. S. Bishop and Co., 430 Bath Road, Slough, Bucks., £1,321 (recommended).

Leamington Spa, War.—Construction of bowling greens and tennis courts at Shrubland recreation ground for B.C.—En-Tout-Cas Co., Ltd., Syston, Leicester, £2,215 and £1,878, respectively (recommended).

Wandsworth.—Following for B.C.: Preparing and seeding land at King George's Park to provide football, cricket facilities, etc.—Landscape and Public Works, Ltd., 93 Phyllis Avenue, New Malden, Surrey, £5,232 (recommended).

Landscaping works around the five-storey block of flats at Wendelsworth estate (phase 7)—Knowles and Weller, Ltd., South Norwood, S.E.25, £946 (recommended); St. Mary's (Contractors), Ltd., £1,132; Peter Adams (Garden Landscapes), Ltd., £1,302; Fairview Nurseries (Gillingham), Ltd., £2,108.

RAILWAY ENGINEERING

British Railways.—Following contracts placed: Eastern Region:

Construction of a reinforced concrete culvert under underline bridge 1588 between Shippea Hill and Lakenheath—W. and C. French, Ltd., South Brink, Wisbech, Cambs.

Resurfacing of roadways in the King's Cross and Stratford districts—Constable Hart and Co., Ltd., Lion House, Richmond, Surrey.

Repairs to roofs over platforms 3 to 8 at Liverpool Street station—Walter Cowen, Ltd., Souldern Road, London, W.14.

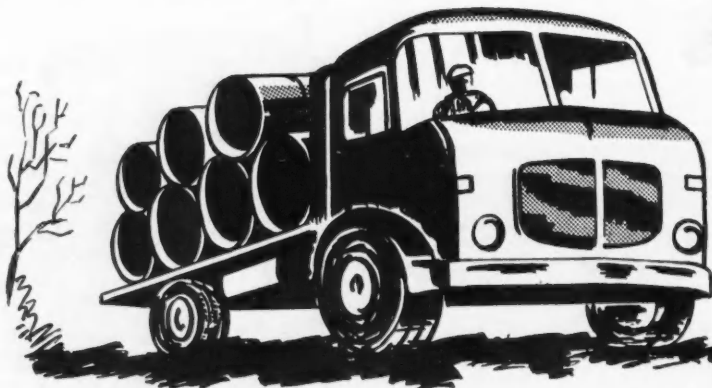
Repairs to arch soffit and spandrel walls, etc., of underbridge 600 at Cantrell Road, between Stepney and Bow Junction—Thomas Fletcher and Co., Ltd., Forest Road, Mansfield, Notts.

Provision of new car park at Enfield Town station—Walter Lawrence and Son, Ltd., 31 Sun Street, Finsbury Square, London, E.C.2.

Construction of footpath on the north side of Keadby ex. lift bridge 36 over River Trent, between Althorpe and Scunthorpe and Frodingham—Carter-Horseley (Engineers), Carwood Road, Sheffield, 4, London Midland:

1961 fencing renewal programme in the Derby North district—Escay Fencing Contractors, Ltd., Enfield, Middlesex.

1961 fencing renewal programme in the Manchester district—J. B. Corrie and Co., Ltd., London, S.W.7.



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Supply of material and manufacture of bored cast-in-place piles for Bridge No. 5 on the Trent-Nottingham line—The Pressure Piling Co. (Northern), Ltd., Bamber Bridge, Lancs.

Provision of low power hot water heating at North Wall, Dublin—McCann, Ltd., Dublin.

Renewal of retaining wall adjacent to Woverhampton No. 4 signal box alongside the Birmingham Canal—J. Rata and Co., Ltd., Willesden, London, N.W.2.

Office accommodation for Line Traffic Manager at Crewe—Gilbert Ash, Ltd., London, W.1.

Southern Region:

Kemp Town: resurfacing and drainage in goods yard—W. H. Gaze and Sons, Ltd., London, S.W.15.

Dover Marine: provision of rope store—R. Corben and Son, Ltd., Maidstone, Kent. Redhill, Horsham, East Grinstead: aerial survey—B.K.S. Air Survey, Ltd., Leatherhead, Surrey.

Three Bridges, Littlehampton, Lewes: aerial survey—Hunting Surveys, Ltd., Boreham Wood, Herts.

Waterloo Station: Cleaning of stone and brickwork—Szerelmey, Ltd., London, S.E.16.

Newton St. Cyres: reconstruction of bridge—Aubrey Watson, Ltd., Henley-on-Thames, Oxon.

Selsdon—reconstruction of Selsdon Road bridge—Cleveland Bridge and Engineering Co., Ltd., London, S.W.1.

Yeovil Town Motive Power Depot: improvements to staff accommodation—Jewell and Son, Barnstaple.

Selhurst Carriage Servicing Shed: installation of electrical services—Bective Electrical Co., Ltd., London, W.C.2.

Kingston River Bridge: cleaning, tarring and painting—Maurice Hill, Ltd., Horn-dean, Hants.

Waterloo and City Railway: improvements to Waterloo Terminus Station—F. G. Winter, Ltd., London, S.W.1.

Extension of Electrification, Dover Marine: demolition of redundant motive power depot—The Demolition and Construction Co., Ltd., London, S.W.1.

Dover Train Ferry Dock: repairs to inner dock gate—Head Wrightson, Teasdale, Ltd., Thornaby-on-Tees.

ROADS, BRIDGES AND SITE WORKS

Bolton, Lancs.—Private street works in New Hall Lane, Smedley Avenue and Back

Bentley Street for B.C.—Executors of J. W. Bradley, Hall Lane, Farnworth (recommended, subject to Ministry approval).

Brighton, Sussex.—Following for B.C.: Completion works at Wadhurst Rise (Wilson Avenue) housing site—A. C. Jenkins, Ltd., Ladies Mile Road, Brighton, 6, £4,332 (accepted); Abacon, Ltd. (Birmingham), £4,336; M. and D. Construction Co., £4,618; H. Pannett (Civil Engineering), Ltd., £4,910; J. W. Gammans and Co., Ltd., £5,129.

Completion of roadworks at Warren Road and Falmer Road, Woodingdean—S. M. Tidy (Public Works), Ltd., 161 Preston Road, Brighton, 6, £24,748.

Bristol.—Improvements to Passage Road and Wyck Beck Road at Brentry, comprising part of the alternative route to the former Filton by-pass for City Council—Durnford Construction Co. (Bristol), Ltd., Cumberland Road, Bristol, 1, £172,800.

Cheshire.—Construction of 9½ miles of the Birmingham-Preston Motorway (M.6) in South Cheshire between the Staffordshire boundary and Holmes Chapel for M.T. Scott and Wilson, Kirkpatrick and Partners, consulting engineers, 47 Victoria Street, London, S.W.1—Sir Lindsay Parkinson and Co., Ltd., 6 Lambeth Road, London, S.E.1, £5,892,765.

Cranbrook, Kent.—Construction of a new estate road, together with ancillary works, at Oaklands, Freight Estate, for R.D.C., including approximately 632 super. yd. tarmacadam and 440 lin. ft. of kerbing—Kaymat, Ltd., Clifton Road, Tunbridge Wells, £2,219 (accepted); P. A. Barden and Sons, Ltd., £2,269; Bensted Contractors, Ltd., £2,382; Taylor Bros., Ltd., £2,473; The Wingham Engineering Co., Ltd., £2,537; Roe (Road Contractors), £2,900. Work has commenced.

Crayford, Kent.—Surfacing of roadway with tarmacadam at London Road for P. A. Glock, Ltd.—Hodsons, Ltd., 17 Wrotham Road, Gravesend.

Cumberland.—Road and bridge diversion and improvement at Lanercost, which is approximately 11 miles north-east of Carlisle, for C.C. F. L. Broughton, county surveyor—Demolition and Construction Co., Ltd., London, £59,328.

Ealing, Middx.—Construction of a roundabout at the junction of Ruislip Road, Lady Margaret Road and Kensington Road for C.C.—L. Goodall and Son, Ltd., £18,072 (recommended).

Eastwood, Notts.—Construction of roads and sewers at Raglan Street estate for U.D.C.—Butterworth and Partners, Ltd., Langley Mill, Nottingham.

Elland, Yorks.—Private street works in part of Plains Lane and part of South Parade for U.D.C.—D. J. Bates, Birchencliffe, £2,138 and £1,589, respectively.

Esher, Surrey.—Littleheath Farm housing estate extension, Oxshott, stage II—roads and sewers, contract 318, for U.D.C., comprising miscellaneous site works, the construction of approximately 1,000 sq. yd. of hardcore carriageways, 130 lin. yd. of 9in. surface water sewer, together with ancillary works—P. Collins (Contractors), Ltd., Villiers Street, Strand, London, W.C.2, £3,709.

Esher, Surrey.—Farm Road housing estate, completion works (contract 317) for U.D.C., comprising 2,400 sq. yd. cleaning and scarifying existing hardcore carriageways, and surfacing with two-course bituminous macadam, 500 lin. yd. of kerbing and channelling, 775 lin. yd. of concrete edging, 1,300 sq. yd. of bituminous macadam footpaths, 4,200 sq. yd. of grass verges, together with miscellaneous ancillary works—T. Vickers, Ltd., 288 Kingston Road, Leatherhead, £5,135.

Eston, Yorks.—(a) Supplying and laying approximately 1,300 tons of fine cold asphalt, ½in. consolidated thickness; and (b) footpath, kerbing and channelling works to certain highways in the district for U.D.C. N. C. Harrison, engineer and surveyor—Tarmac Roadstone, Ltd., Tees Bridge, Stockton-on-Tees, £4,679 and £1,109, respectively.

Gosport, Hants.—Construction of the new diversion of the section of Little Beach Street between the two arms of Trinity Green for B.C.—Holdyne, Ltd., 59 High Street, Winchester, £8,258 (recommended).

Haverhill, Suffolk.—Construction of footways (stage I), advance preparation road and sewer works (stage II), and street lighting on the industrial site for L.C.C.—George Wimpey and Co., Ltd., London, W.6, £29,101 (accepted); Cubitt and Gotts, Ltd., £56,996.

Islington.—Following for B.C.: (a) Reconstruction of the carriageway foundations and (b) resurfacing with asphalt of sections of Holloway Road and Offord Road—(a) St. Mary's (Contractors), Ltd., 273 Sussex Way, London, N.19, £18,191, and (b) Neuchatel Asphalte (Contracting), Ltd., Asphalte House, Palace Street, London, S.W.1, £7,115 (recommended, subject to Ministry approval).

Paving of land between the boundary wall of Langdon Court, Oakley Crescent and boundary of the highway in City Road and

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further reinstatement of footway paving—J. H. Hitchin, 23 St. Mary's Grove, London, N.1 (recommended), estimated cost £1,800 and £3,000, respectively.

Kidderminster, Worcs.—Surface dressing of various carriageways within the borough for B.C.—Taroads, Ltd., Springfield, Dudley (recommended). Estimated cost £6,300.

Kincardine.—Perth-Aberdeen-Inverness trunk road, route A.92, Cortens-Bridge of Muchalls improvement and improvement near Cowie House, for C.C. Work comprises earthworks and the forming, bottoming and surfacing of approximately 1,200 lin. yd. of dual carriageway and 800 lin. yd. of single carriageway, including the construction of a large reinforced concrete bridge culvert and ancillary works. Eric J. A. Moir, county road surveyor—William Briggs and Sons, Ltd., East Camperdown Street, Dundee, £132,648 (accepted); William Tawse, Ltd., £145,513; John McAdam and Sons, Ltd., £150,940; James Leith, Junr., Ltd., £151,708; Laird Bros., Ltd., £153,338; Charles Gray (Builders), Ltd., £172,596; D. D. Gair and Son (Plant), Ltd., £176,439; McKean and Co., (Glasgow), Ltd., £178,393; Archibald Middleton, £180,903; Lewis Middleton, Ltd., £184,999. Work to start in July.

Lambeth.—Following for B.C.: Supply and laying of two-coat rolled asphalt at Brxton Hill (part), Jebb Avenue and Lander Road—John Mowlem and Co., Ltd., 91 Ebury Bridge Road, London, S.W.1 (recommended, extension of contract). Estimated cost £13,062.

Repaying old York stone footways in 18 streets during 1961-62—London Paving Co., Ltd., 21 Aylmer Parade, London, N.2, £18,359 (recommended).

Lamington Spa, War.—Reconstruction of the following for B.C.—Prospect Road and Waverley Road—Norman Dunn and Co., Ltd., Kington Road, Wellesbourne, Warwick, £18,367; Warwick New Road and the eastern section of Leicester Street—Galliford and Son, Ltd., Wolvey, Hinckley, £19,292 (recommended).

London.—Following for City Corporation: Maintenance of the carriageway of Eastcheap, Great Tower Street and Byward Street for the period July 10, 1961, to June 30, 1962—Limmer and Trinidad Lake Asphalt Co., Ltd., Trinidad Lake House,

Vauxhall Bridge Road, London, S.W.1, £1,352 (recommended); Val de Travers Asphalt, Ltd., £1,405; Neuchatel Asphalt (Contracting), Ltd., £1,370; Highways Construction, Ltd., £1,369.

Temporary paving on the frontage of Hillgate House, Ludgate Hill—Willment Bros., Ltd., Baltic Wharf, Waterloo Bridge, London, S.E.1, £929 (recommended); William F. Rees, Ltd., £1,366; Mowlem (Civil Engineering), Ltd., £1,224; Howard Farrow, Ltd., £1,193; Fitzpatrick and Son (Contractors), Ltd., £1,079.

Maintenance of the carriageway of New Bridge Street and Blackfriars Bridge Approach for the period October 10, 1961, to June 30, 1962—Neuchatel Asphalt (Contracting), Ltd., Asphalt House, Palace Street, London, S.W.1, £953 (recommended); Val de Travers Asphalt, Ltd., £978; Limmer and Trinidad Lake Asphalt Co., Ltd., £966; Highways Construction, Ltd., £965.

Maintenance of roads at the City of London Cemetery—Mowlem Paving Co., Ltd., 19 Grosvenor Place, London, S.W.1, £1,519 (recommended); Wm. F. Rees, Ltd., £1,979; W. and C. French, Ltd., £1,777; Fitzpatrick and Son (Contractors), Ltd., £1,663; Situsec, Ltd., £1,595.

Lurgan, Armagh.—Reconstruction of North Circular Road, and other ancillary works, for B.C.—Wm. M. Larmour, Aughnahoe Quarries, Lisburn, £5,741.

Luton, Beds.—Asphalt resurfacing works during 1961 for B.C.—Wirksworth Quarries, Ltd., Woolmer Green, Knebworth, Herts, £13,899.

Middlesex.—Surfacing works along Whitton Avenue, Ealing, and a section of Hampton Court Road for C.C.—Constable, Hart and Co., Ltd. (recommended extension of contract). Estimated cost £1,817 and £10,043, respectively.

Mitcham, Surrey.—Following for B.C.: Tar-surfacing during 1961-62—W. and J. Glossop, Ltd., 123 Easthill, London, S.W.18, £2,744 (recommended); The Mowlem Paving Co., Ltd., £2,881; Johnston Bros. (Contractors), Ltd., £2,907; H. V. Smith and Co., Ltd., £2,910; Johnson Bros. (Aylesford), Ltd., £2,931; South Eastern Tar Distillers, Ltd., £3,008.

Resurfacing of approximately 9,500 sq. yd. of carriageway—William F. Rees, Ltd., 54 Victoria Street, London, S.W.1, £4,943 (recommended); Neuchatel Asphalt

(Contracting), Ltd., £5,084; Highways Construction, Ltd., £5,155; W. and J. Glossop, Ltd., £5,246.

Making-up of Cedars Avenue and Lilian Road (part)—W. and J. Glossop, Ltd., £7,037 and £1,603, respectively (recommended); Patrick Collins (Contractors), Ltd., £7,107; and £1,665; J. E. Billings and Co., Ltd., £7,855 and £1,943; W. H. Gaze and Sons, Ltd., £7,869 and £2,031; Franks and Harris Bros., Ltd., £8,237 and £2,067; Waywarden, Ltd., £9,951 and £2,232.

Salisbury, Wilts.—Rebuilding of Summerlock Stream Bridge at Ashley Road for City Council—Direct Labour. Estimated cost £5,000.

Southwark.—Resurfacing of footways at Lorrimore Road and Forsyth Road, for B.C.—W. F. Rees, Ltd., 54 Victoria Street, London, S.W.1, 16s. 3d. per super. yd. (recommended).

Sutton and Cheam, Surrey.—Making-up of Cuddington Way, section 1, from Sandy Lane to Golf Side, and repairs and maintenance of roads and footpaths at Sutton Cemetery, etc., for B.C.—T. Vickers, Ltd., 288 Kingston Road, Leatherhead, £4,279, and Durable Asphalt, Ltd., 351 Caledonian Road, London, N.1, £942, respectively (recommended).

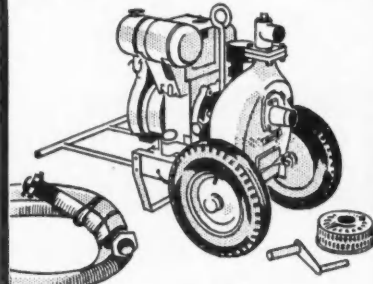
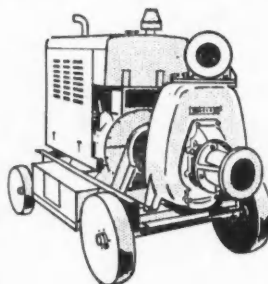
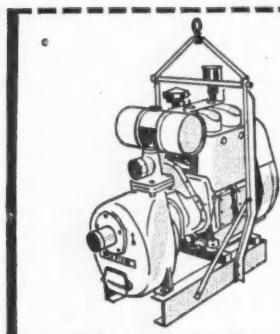
Totnes, Devon.—Extension of the cemetery for B.C.—Northcotts of Exeter, Ltd., Venny Bridge, Whipton, Exeter, £2,786 (recommended); W. and J. Glossop, Ltd., £2,950.

Uxbridge, Middx.—Surfacing works on the viaduct section of Western Avenue for C.C.—Roads Reconstruction (Contracting), Ltd., £17,536 (recommended).

Ware, Herts.—Construction of roads, sewers and footpaths for new estate at Trinity Farm, Fanhams Hall Road, for Bridgman and Sons—Farniloe and McVie, Ltd., 10 High Street, Welwyn.

Welshpool, Monts.—Improvement scheme at the Panyralarch Road, Castle Caereinion, for B.C.—Buttington Road Rolling Co., Ltd., Min-y-Nant, Trewern, Welshpool, £2,270 (recommended).

Whitehaven, Cumb.—Construction of a viaduct over the railway lines at Meadow Road, Mirehouse, for B.C.—British Reinforced Concrete Engineering Co., Ltd., Lichfield Road, Stafford, estimated cost £57,000 (recommended, subject to Min'stry approval).



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Whitley Bay, Northumb.—(1) Surface dressing of roads (1961), approximate area 28,500 sq. yd.; (2) hot chip carpet, approximate area 21,200 sq. yd., for B.C. E. Roberts, engineer—(1) S. Sutcliffe and Son, Ltd., Cragg Road, Mytholmroyd, Yorks., £1,313; (2) Johnston Bos. (Contractors), Ltd., Johnston House, Hatchlands Road, Redhill, Surrey, £2,368. Work commencing soon.

Winsford, Ches.—Grange housing estate—construction of roads and sewers (phase 1, section 1, contract 67/36/01) for U.D.C. L. E. Wakefield, engineer and surveyor—Thomas Ashley (Contractors), Ltd., Chester Road, Hartford, near Northwich (subject to Ministry approval).

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Bolton, Lancs.—Reconstruction of the Egyptian Street sewer for B.C.—Direct Labour (recommended). Estimated cost £6,500.

Bromley, Kent.—Construction of relief surface water sewer at Kynaston Road and Burnt Ash Lane, for B.C.—R. Mitchell (Public Works), Green Street Green, Dartford, £6,554 (recommended).

Carlisle, Cumb.—Reconstruction works at the Willowholme sewage works, part II, for City Council—Border Engineering Contractors, Ltd., Coach Road, Whitehaven, £82,411 (recommended, subject to Ministry approval).

Chancetbury, Sussex.—Main drainage of West Chiltington, Nutbourne and Thakeham, C21/13, contract 1, for R.D.C., comprising the construction of approximately 3,500 lin. yd. of 6in. and 9in. diameter sewers and rising mains, one sewage pumping station, and other ancillary works. Howard Humphreys and Sons, consulting engineers, West Street, Epsom, Surrey—Bridgewater Bros., Ltd., Westhampton Road, Chichester, £45,129 (accepted); Hugh Brown (Engineers), Ltd., £45,765; Marples, Ridgway and Partners, Ltd., £56,026. Work to commence August.

Ealing, Middx.—Provision of a surface water outfall sewer at Yeading Green estate for B.C.—Percy Bilton, Ltd., 54 Uxbridge Road, London, W.5, £36,034 (recommended, subject to Ministry approval).

Eston, Yorks.—Construction of a sewage disposal preliminary treatment works, contract 2, for U.D.C. N. C. Harrison,

engineer and surveyor—Tarmac Civil Engineering, Ltd., Bowesfield Lane, Stockton-on-Tees, £19,492.

Galashiels, Selkirk.—Reconstruction of the sewage disposal works at Galafoot for B.C.: Civil engineering work—Whatlings, Ltd., 10 Woodside Crescent, Glasgow, C.3, £129,473. Mechanical plant will be supplied by William E. Farrer, Ltd., and Ames, Crosta, Mills and Co., Ltd., 50 Wellington Street, Glasgow, C.2, £45,530.

Glendale, Northumb.—Construction of the Crookham sewerage scheme for R.D.C.—Charles G. Inkster, Paikes Street, Alnwick, £7,000.

Kingsbridge, Devon.—Construction of the Malborough sewerage scheme for R.D.C., including the construction of about 950yd. of 4in. to 9in. diameter pitch fibre and concrete sewers with manholes, a sewage pumping station and about 380yd. of 4in. diameter spun-iron rising main. Lemon and Blizard, consulting engineers, 1 Glenside, College Avenue, Mannamead, Plymouth—W. J. Clemens and Co., Ltd., East Budleigh, Devon, £8,356 (accepted); W. H. Loneragan, Ltd., £9,634; Northcotts of Exeter, Ltd., £12,016; R. Costain (Construction), Ltd., £12,232; W. Squire and Son, Ltd., £12,363. Work to commence July.

Lambeh, Following for B.C.: Reconstruction of sewers at Idmiston Road—Ed. H. Jackson, Ltd., 62a High Street, London, N.8, £6,114 (recommended); D. R. Paterson, Ltd., £6,202; J. E. Billings and Co., Ltd., £6,901; John Mowlem and Co., Ltd., £7,160; H. Booth and Son, £7,396; Fitzpatrick and Son (Contractors), Ltd., £8,208.

Reconstruction of sewers at Crims-worth, Goldsborough and Thorparch Roads D. R. Paterson, Ltd., 33 Granville Road, London, N.W.2, £19,130 (recommended); Ed. H. Jackson, Ltd., £21,127; Fitzpatrick and Son (Contractors), Ltd., £22,426; J. E. Billings and Co., Ltd., £24,779.

Pontefract, Yorks.—Gallows Hill and Hillcrest Avenue, Townville, sewerage for B.C. A. F. Richmond, borough engineer—Direct Labour.

Poplar.—Reconstruction of Leamouth Road sewer for B.C.—Fitzpatrick and Son (Contractors), Ltd., 455 Old Ford Road, London, E.3, £52,517 (recommended).

Southwark.—Repairs to the sewer at Southwark Bridge Road and reconstruction of

the Lant Street sewer between Borough High Street and Sanctuary Street, for B.C.—D. R. Paterson, Ltd., 33 Granville Road, Childs Hill, London, N.W.2, £1,650 and £2,500 respectively (recommended).

Stourbridge, Worcs.—Construction of the surface water culvert, Swan Street to the River Stour, and storm water culvert at Redlake Road for B.C.—C. J. Pearce and Co., Ltd., Southall, near Wellington, £42,004 and £30,621, respectively (recommended, subject to Ministry approval).

Sutton and Cheam, Surrey.—Construction of relief soil sewer at Cuddington Way for B.C.—J. E. Billings and Co., Ltd., 54 Beddington Lane, Croydon, £28,425 (recommended).

STREET LIGHTING

Accrington, Lancs.—Supply of equipment for conversion of the lighting in certain streets in the town centre from 500-W tungsten lighting to 400-W colour-corrected mercury lighting for B.C.—Eleco, Ltd., Sphere Works, St. Albans, Herts., £770 (recommended).

Ealing, Middx.—Provision of lanterns, lamps and control gear and brackets and control gear box for the conversion of filament to sodium lighting for B.C.—A. C. Ford, Ltd., Peatree Lane, Dudley, Worcs., £33,171 and £2,933, respectively (recommended).

Lewisham.—Supply of 503 lanterns, lamps and control gear and 81 columns for B.C.—General Electric Co., Ltd., Magnet House, Kingsway, London, W.C.2, £12,567 (recommended).

Monmouth.—Supply and erection of group A and B street lamps and connections for B.C.—General Electric Co., Ltd., and South Wales Electricity Board. Estimated cost £13,245 (recommended).

Tickhill, Yorks.—Supply and erection of 45 group B steel columns, complete with tungsten lanterns, for U.D.C.—Abacus Municipal, Ltd., Sutton-in-Ashfield, Notts.

GOVERNMENT CONTRACTS

Air Ministry.—Contracts to the value of £4,000 or over for the week ended June 16:

Building work: Marham, Norfolk—Walter Lawrence and Son, Ltd., Swaffham, Norfolk;

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Scampton and Waddington, Lincs.—A. Richmond and Sons, Ltd., Retford, Notts.; Bentley Priory, Middx.—Thomas Lowe and Sons, Ltd., Hammersmith, London, W.6; Scampton, Lincs.—W. and J. Simons (Lincoln), Ltd., Friars Lane, Lincoln; Binbrook, Lincs.—R. M. Phillips and Son, Ltd., Brigg, Lincs.

Civil engineering: Chicksands, Beds.—Kottler and Heron, Ltd., Cliftonville, Northampton.

Runway surfacing: Wittering, Northants. and Wyton, Hunts.—W. and J. Glossop, Ltd., Wandsworth, London, S.W.18; Fairfield, Glos.—The Limmer and Trinidad Lake Asphalt Co., Ltd., Vauxhall Bridge Road, London, S.W.1.

Runway work: Farnborough Hants—Thomas C. Stewart (Contractors), Ltd., Bury St. Edmunds, Suffolk.

Artificers' work: Wethersfield (Essex), etc.—Walter Lawrence and Son, Ltd., Swaffham, Norfolk; Coningsby, Lincs.—J. T. Barber and Son, Boston, Lincs.; Duxford (Cambs.), etc.—Combined Contractors (London), Ltd., Voluntary Place, London, E.11.

Re-roofing work: Henlow, Beds.—Winton Hayes, Ltd., Biggleswade, Beds.

Medium pressure hot water heating services: Alconbury, Hunts.—Kershaw Heating, Ltd., Cambridge.

High pressure hot water heating installation: Cranwell, Lincs.—G. N. Haden and Sons, Ltd., Tavistock Square, London, W.C.1.

Heating services (hangar): Dishforth, Yorks.—J. Jeffreys and Co., Ltd., Waterloo Road, London, S.E.1.

Preparation and maintenance of lands: Sculthorpe, West Raynham, Marham, and Watton (Norfolk), etc.—Jack Branch (Airefields), Ltd., Waterbeach, Cambridge; Lakenheath, Mildenhall and Tuddenham (Suffolk), etc.—Oliver Sear, Ltd., Old Buckenham Hall, Norfolk.

Ministry of Works.—Contracts placed for week ended June 10:

Durham: Post Office, Grindam Lane, Hylton—erection of automatic telephone exchange—Matthew Nunn, Ltd., 40 Nile Street, Sunderland.

Kent: Ashford—erection of telephone engineering centre—C. Jenner and Son, Ltd., 5 Bouverie Road East, Folkestone.

Middlesex: National Physical Laboratory, Teddington—erection of autonomies building—Lavender, McMillan (Contractors), Ltd., 54 Cheam Common Road, Worcester Park, Surrey.

Montgomeryshire: Head Post Office, Welshpool—adaptations—W. Watkin and Co., Ltd., 18 Oswald Road, Oswestry, Salop.

Northumberland: Inland Revenue, Andrew House, Newcastle—adaptations—A. Reynolds and Co., 8 Cotenham Street, Newcastle upon Tyne, 4.

Warwickshire: Post Office Supplies, Fordrough Lane, Birmingham, 9—alterations and adaptations—Trickett and Sons, Ltd.,

201 Aldridge Road, Streetly, Sutton Coldfield; County Court, Newton Street, Birmingham—re-equipping various courts—A. Edmonds and Co., Ltd., 89 Constitution Hill, Birmingham, 19.

Yorkshire: Armley Employment Office, Leeds—alterations—W. J. Kendall and Co., South Parade, Pudsey; Ministry of Pensions and National Insurance, Orchard Street, Thorne—site works for timber building—T. Jenkinson and Sons (Doncaster), Ltd., Bentley Road, Doncaster.

War Department.—Contracts placed for the week ended June 16:

Angus (Dundee): building—W. and R. Brownlee, Ltd., Dundee.

Kent (Hythe): building—Colston Electrical Co., Ltd., Bristol.

London, N.W.7: roadwork—Constable Hart and Co., Ltd., Richmond, Surrey.

Middlesex (Hounslow): building—H. Goodsell and Sons, Ltd., Maidstone; heating and ventilating—G. N. Haden and Sons, Ltd., Trowbridge.

Oxfordshire (Bicester): building—Bosworth Wakeford and Stepnell, Ltd., Rugby.

Surrey (Brookwood): roadwork—Neuchatel Asphalte (Contracting), Ltd., London, S.W.1.

Warwickshire (Bramcote): building—Thomas Bates and Son, Ltd., Kenilworth.

Wiltshire (Netheravon): roadwork—Roads Reconstruction (Contracting), Ltd., Frome.

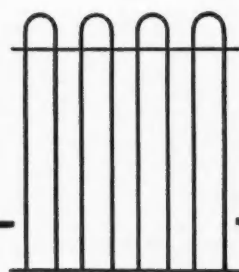
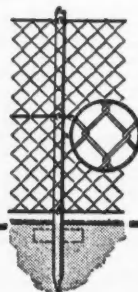
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Trade and Company News**OVERSEAS DISTRIBUTORS VISIT NEWTON CHAMBER'S WORKS****Special Display of New Machines**

THIRTY-ONE representatives of distributors of NCK-Rapier excavators and cranes in twenty countries visited the Thorncliffe Works, near Sheffield, of Newton Chambers and Co., Ltd., on two days immediately before the opening of the International Construction Equipment Exhibition at Crystal Palace.

They were directors, sales managers and other executives of companies in Algeria, Austria, Belgium, Ethiopia, Finland, France, Ghana, Holland, Iceland, Iran, Kenya, Lebanon, Malaya, Nigeria, Norway, Northern Ireland, South Africa, Singapore, Sweden and West Germany.

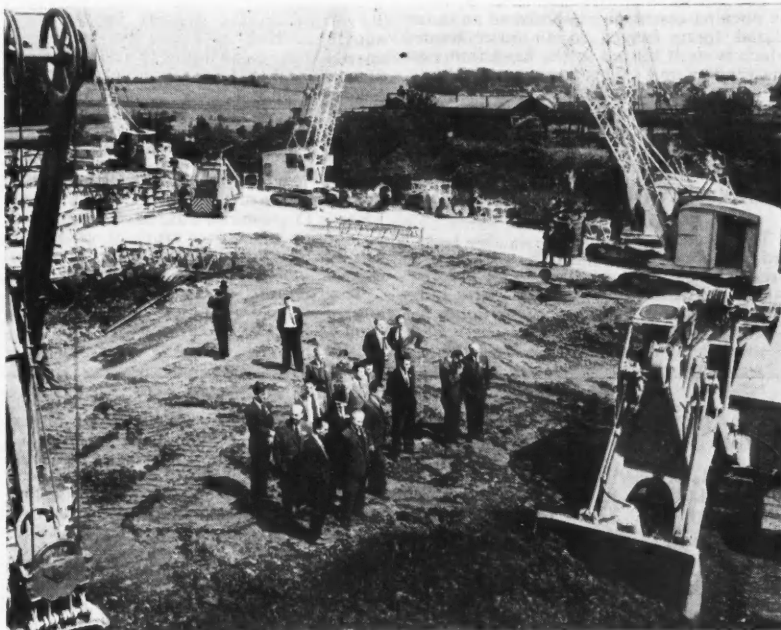
A feature of the visit was a special display arranged on the testing ground adjoining the excavator factory, including new machines which the distributors had

not had the opportunity of seeing previously.

They saw a 545 Sprawler with a 100ft. boom and a 20ft. jib lift a 205 excavator on the main hook while a 205 drag shovel was suspended on the jib hook. Also on show was a 304 face shovel with a prototype rope crowd in place of the chain crowd which is at present standard.

The other machines were a 205 Skooper, a Pennine with a 50ft. main boom and 20ft. jib, two 304 cranes with 60ft. booms, a 304 dragline with a 50ft. boom, a 205 truck crane with an 80ft. boom, a 605 crane with 110ft. boom, and a 605 face shovel.

The overseas distributors also took part in an export conference when matters of mutual interest were discussed. They heard talks by NCK-Rapier experts on features of new models, service facilities, etc. From



A general view of the testing ground at Thorncliffe

ACROW HEAVY-DUTY FORMWORK FOR INCREASED HEIGHTS

DESIGNED for increased height, shape and size, and heavy loads, the Shorload heavy-duty formwork support system has been introduced by the Acrow organisation, South Wharf, London, W.2, for use where normal propping or traditional tube-and-fitting scaffolding are impracticable or uneconomical.

The system consists of 4ft.-wide frames, shore heads and cross bracing. Frames are available in 3ft., 4ft., 5ft. and 6ft., and the components are designed in line with the load capacity of the frames, being simple, trouble-free and obvious in their application, it is claimed.

Shorload is normally erected in single towers allowing immediate forming operations to follow. Towers can be transported by dollies, fork-lift and crane, to new positions horizontally or vertically without

disassembly. In forming operations, the lowering adjustment allows forms to be stripped with ease, avoiding damage to materials and making for speed with safety.

The fast-action wedge lock gives instant registry and positive locking in one operation on the connection of the cross braces to the frames. The fitting allows for the application of single tower or continuous cross bracing, the design eliminating movement and slip.

Each vertical leg, state the manufacturers, carries a safe working load of 10,000lb., or 20,000lb. per frame, giving a safety factor of 3:1. The system eliminates more than 50 per cent. of normal scaffolding requirements, and on building slabs, particularly over normal propping heights, is used in combination with V-Form and Acrowspan, giving savings in speed due to the reduction of equipment required, and avoiding two-stage shoring.

Mr. P. J. C. Bovill, managing director of Newton Chambers, the parent company, and Mr. K. E. Walker, director of the Newton Chambers Engineering and Excavator Divisions, the visitors learned of plans to increase production of excavators and cranes both at Thorncliffe and Ipswich.

Extensions of the Excavator Factory at Thorncliffe and the installation of additional machine tools are already in hand.

IMPROVED MONO-RADIAL PUMP RANGE

The series S.D.S., a new range of mono-radial pumps, claimed to offer improved performance and increased capacities at lower cost, has been introduced by Andrew Fraser and Co., Ltd., 64-65 Vincent Square, London, S.W.1.

Pumps in the S.D.S. series, smaller in size than previous models, are self-priming with a normal running speed of 1,500 r.p.m. Capacities of these robust pumps range from 1.8 to 5.4 g.p.m. at pressures up to 6,000 p.s.i. Designs allow for both foot and flange mounting.

Based on radial design, the new series incorporates several modifications including alterations to the geometry of the pumping chamber, inclusion of a new suction valve and shaft assembly.

Volumetric efficiency has been increased, it is stated, and at the same time overall dimensions have been reduced.

The new design features will be applied throughout the range of mono-radial pumps scheduled for future production.

NEW SAFETY FEATURE FROM FORD

In compliance with a Government regulation effective on July 14, Tractor Group, Ford Motor Co., Ltd., have designed a belt pulley guard suitable for Super Major and Dexta tractors. The guard itself is common to both tractors and has slotted holes enabling either Super Major or Dexta brackets to be added.

In order to accommodate the new guard on the Dexta tractor a new back cover casting has been added to the assembly of the belt pulley housing. Different belt angles can be obtained by manipulating the attachment bolts and positioning the guard at the required angle.

The new safety feature will be standard equipment for tractors with belt pulleys on the home market, and optional for export models. It will also be available as a kit to enable operators of Fordson tractors now in use to comply with the new legal requirements. When the kit is used, Fords say the new guard will fit all their existing tractors designed to take the current small pulley guard, including Major class tractors built since 1952.

PACKAGED ROOFS FOR PRISON STAFF HOUSES

The use of trusses and packaged roofs manufactured by Rainham Timber Engineering Co., Ltd., Rainham, Essex, has been approved by the Ministry of Works (H.M. Prisons Commission) for 112 houses and hostel for prison staff at Grendon Hall estate, Grendon Underwood, Bucks.

The main contractors for the housing are Turriff Construction Corporation, Ltd., Warwick.

5-SPEED GEARBOX FOR THAMES TRADER

The heavy duty David Brown five-speed gearbox, Model 552, is now offered for the Thames Trader by County Commercial Cars, Ltd., Fleet, Aldershot. Two versions are available: one with overdrive top gear is mainly intended for use with the County 6 x 2 and Standard Trader 4 x 2, whilst the other with extra low bottom gear is suited for the County 6 x 4.

Trade and Company News**JOY HEAVY DUTY "INDUSTRIAL AIR" COMPRESSORS**

A NEW range of air compressors featuring compact vertical design and rated for 24-hour heavy duty applications is announced by the Air Power Division of Joy-Sullivan, Ltd.

The Joy WG-9 Industrial Air compressor is a single-cylinder, single-stage, water cooled unit, designed for service as a main air supply for all small factories and plants or as an auxiliary supply for larger plants. Available in six cylinder/stroke sizes giving free air delivered outputs of 75 to 334 c.f.m. at working pressures of 15 to 150 p.s.i., the largest of these compressors requires a floor space of only 3ft. by 3ft. 5in.

The WG-9 embraces the lower capacity range not already covered by Joy WN series heavy duty stationary compressors. As with the WN series, there is a complementary range of WG-9 compressors specially designed to give completely oil free air. Designated WGO-9, these units are available for conditions where absolute air purity is critical, such as in the food and chemical industries.

MUCON HOPPER LEVEL SWITCH

Mucon Engineering, Co., Ltd., Ruislip, Middx., have recently introduced a new device to their range of materials handling equipment. It is an automatic hopper level control switch for solids and slurries, and is particularly suitable for light powders and products of low bulk density.

The switch comprises an aluminium alloy body measuring 5in. in diameter and 2½in. in depth. It has a separate fixing clamp and two compartments separated by a partition. This serves the dual purpose of protecting the diaphragm against over loading, and of preventing the contents of the hopper entering the electrical compartment in the event of diaphragm failure.

CEMENT PLANTS PRODUCING TO CAPACITY

At the annual general meeting of Rugby Portland Cement, Sir Halford Reddish, chairman and managing director, said that the demand in the home market in the early months of this year, helped of course by the mild weather, had been much greater than is usual at that time of the year. It should not however be assumed that the same percentage increase would be maintained throughout the year. It meant that the seasonal run-down of stocks began earlier than usual.

"The home demand for the whole of 1961," he said, "is likely to show some advance on 1960, and all our plants are producing to capacity. I hope that we shall be able to produce results comparable with those of recent years. But I would not like anyone to look for any particularly glittering or dramatic increase in profits, for costs are still rising."

"DOUBLE OPENING" WINDOW FRAME

Manufactured in softwood and hardwood, a new window has been designed by Hope Emery, Ltd., Old Hills, Staffs., to allow glazing, painting and cleaning to be carried out from inside the building.

The essential design feature consists of an opening casement composed of an inner glazed frame hinged to an outer frame, which is itself hinged to the fixed frame of the window unit. This arrangement allows the inner glazed casement to open outwards in the usual manner, but also to open inwards with the outer frame for cleaning or maintenance.

GREENWOODS AGGREGATES COMPANIES

The directors of Greenwood's (St. Ives), Ltd., announce the acquisition of the entire issued share capitals of A. G. Jones (Aggregates), Ltd., and Mill Lane Aggregates Ltd. These companies operate gravel pits in Cheshunt, Herts.

NEW MOPUMP CENTRIFUGAL PUMP

RHODES, Brydon and Youatt, Ltd., Reddish Engineering Works, Stockport, Ches., have developed a new range of compact, close-coupled pumps suitable for a variety of applications.

The basic design is a single entry, single impeller unit. It is fitted with a mechanical seal and the shaft length has been reduced to a minimum so that the pump is more closely coupled to the motor than usual.

Another feature is the simple method of unit construction or close coupling. With this unit construction design, the pump can be opened for inspection or maintenance without the need to disconnect the pipework or lift the motor. The removal of the nuts securing the pump casing will permit the motor, complete with the seal housing, to be moved back along the slide-rails on which it is mounted.

The pump is of all-ferrous construction; casing, seal housing and impeller are in cast iron and the flanges are machined and drilled to BST "D." A capped nut and locking washer secure the impeller to the shaft on to which it is keyed. The shaft is sealed by a spring loaded radial faced, balanced seal.

Twenty-nine pump sizes, ranging from 1in. to 5in. branch size, provide a wide choice of pump and motor combinations. By fitting motors suitable for 50 cycles supply at both two pole and four pole speeds, a range of duties is available up to 500 imperial gallons per minute and total heads of 180ft.

NEW GENERATING EQUIPMENT

By a newly completed agreement with Cummins Engines, Ltd., Glasgow, Dale Electric (Yorkshire), Ltd., have commenced production on a new range of generating sets, incorporating British built Cummins diesels.

The outputs of this range, which is known as the Dale "Empress", will extend from 68 to 212 kVA.

SHAWNEE POOLE SALES CONFERENCE

THE new Shawnee Poole Rear Dump Hauler (FD-535) was the subject of a special sales conference held recently for dealers at the company's Earthmoving Training College, Falcon House, Woodley, Reading.

Those attending included: T. E. Williams (director, Bristol Street Motors,

Ltd.); F. K. Mitchell (director, F. Mitchell (Nottm.), Ltd.); E. P. Davidson (director, W. H. Perry, Ltd.); G. Fowler (sales manager, W. H. Perry, Ltd.); Mr. Olley (director, Mars Motors, Ltd.); A. B. Cornell (director, Knutsford Motors, Ltd.); W. H. Symons (director, Tyneside Plant, Ltd.); P. Fleming (director, J. D. Tractors, Ltd.); E. Young (general manager, S. McCormick,

Ltd. (Dublin)); Mr. Chitty (Ford Motor Co., Ltd.); Mr. Miller (Ford Motor Co., Ltd.); R. A. Addington Hall (sales manager, E. Doe and Sons, Ltd.); E. D. Hearn (director, Edarn, Ltd.); G. Heasman (director, Warrington Motors, Ltd.); Mrs. M. M. Foster (director, Warrington Motors, Ltd.); F. A. Aylward (sales manager, Bristol Street Motors, Ltd.); J. F. Bissett (director, Caledonian Mechanical Handling Co., Ltd.); I. W. Melville (sales manager, Caledonian Mechanical Handling Co., Ltd.); C. Gibson (sales manager, Tate of Leeds, Ltd.); R. S. Sparks (sales manager, Mars Motors, Ltd.); P. Meurling (B. Klingberg (Sweden)).

The dealers were given the future marketing plans for the new unit, together with full particulars of its special range of applications, which add a new dimension to rear dump haulage.

SAFETY STOP FOR TIPPING VEHICLES

A safety stop for use when lorries or dumpers are operating on tips is now on the market. Made from welded tubular steel sections, it measures 9ft. 2in. long, 1ft. 11in. wide and 11in. high.

It is not affected by heat when used on slag heaps and the design is such that instead of being pushed back by the impact of a lorry's wheels, it tends to dig into the ground and becomes immovable. Drivers can reverse until they "feel" the stop. Handles at each end enable two men to carry the stop and resite it as the discharge position changes.

The stop is designed and sold by Alan R. Davies, Ltd., 20 Whiteladies Road, Bristol, 8.



A group photograph taken at the Shawnee Poole conference

Trade and Company News**PERKINS INTRODUCE NEW DIESEL-ENGINE POWER UNIT**

PERKINS ENGINES LTD., Peterborough, displayed a new low priced four cylinder diesel-engined power unit for the first time at the International Construction Equipment Exhibition, Crystal Palace.

Known as the Perkins Four 203(D), the new power unit incorporates a 51 b.h.p. direct injection diesel engine housed under

156lb./ft. at 1,200 r.p.m. At its continuous rating of 45 b.h.p. (nett) at 2,000 r.p.m., the unit has a maximum torque output of 137lb./ft. at 1,200 r.p.m.

The power unit's instruments—heater-starter switch, throttle control, oil-pressure gauge, ammeter and tachometer—are all built into a specially designed control panel at the rear end of the unit.

The unit's 12-volt electrical equipment consists of a dynamo mounted on the air intake side of the engine, belt driven from the front end of the crankshaft; a starter motor flange-mounted to the flywheel housing; a 12-volt battery, cut-out and regulator and ammeter suitably wired through a loom. A 17 Imp. gall fuel tank is mounted above the engine.

Features of the engine include high duty cast iron alloy cylinder block of monobloc construction; dry type chrome-plated steel liners to ensure long bore life under the most dusty operating conditions; a rotary fuel pump with an integral mechanical governor; replaceable prefinished main crankshaft and big-end bearings; and geared timing.

TRAINING COURSE FOR ATLAS STONE REPRESENTATIVES

A sales training course has just been completed by representatives of the Atlas Stone Co., Ltd. For five days the company's entire sales force has been studying at the Commercial Selection Training School in Hounslow, Middlesex.

The syllabus—which covered the theory and practice of modern sales representation, Atlas products and their use in the building industry—was compiled by Commercial Selection, Ltd., in conjunction with the Atlas Stone Company's management.

Mr. G. P. Ridout, sales manager of Atlas Stone, said he believed his company was one of the first in the building industry to give such intensive training to its representatives.

PEARSONS TO MAKE GERMAN TOWER CRANES

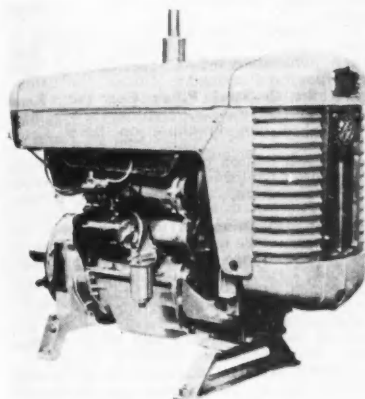
THE Pearson Machine Tool Co., Ltd., of Walker, Newcastle upon Tyne, 6, have announced that they are now undertaking the manufacture in this country of tower cranes, under licence from EWK of W. Germany.

The first one, shown being tested at their works, can lift just over a ton at maximum



radius of 77ft. and 2½ tons at 28ft. radius, with a maximum height of lift of 140ft.

Pearson Tower Cranes, the name of Pearson's Crane division, are sole agents in this country for German-built EWK cranes until such time as Pearson are ready to manufacture all the models in the range for which they have laid down extensive production facilities.



Four 203(D) power unit

a tractor-type canopy. Hinged at the front end of the pedestal-mounted engine, the canopy lifts clear to facilitate maintenance.

The new power unit is the second of its kind to be produced by the Peterborough group. Like the Three 152 power unit, announced last year, the Four 203(D) has been designed to meet the power requirements of a wide variety of industrial, construction and agricultural operators. It has an intermittent rating of 51 b.h.p. (nett) at 2,000 r.p.m. and a maximum torque of

"SCOUT" ALL-PURPOSE RUNABOUT FROM INTERNATIONAL HARVESTER

ON show at the recent International Construction Equipment Exhibition, and made at International Harvester Company's Fort Wayne, Indiana, factory, was a new utility passenger and/or freight carrying vehicle known as the "Scout".

This all-purpose vehicle is only 5ft. 7in. high, has a wheelbase of 8ft. 4in., is 12ft. 10in. long, and its overall width is 5ft. 5½in. With seating space for three people in front, it can also carry sizeable loads in its 5ft. pickup body, where additional seating is available on the two rear-wheel housings. For rough, cross-country work it has a removable cab top, a fold-down windscreen, and the sliding glass side windows as well as the doors can be taken off.

Powered by an International "Comanche" four-cylinder, 2,489 c.c.

engine developing nearly 90 b.h.p. at 4,400 r.p.m., the "Scout" is available with either rear-wheel only or four-wheel drive. Fully equipped, but excluding fuel, the weight is 24½cwt. with two-wheel drive, 26½cwt. with four-wheel drive.

Optional extras to suit the variety of jobs for which the vehicle may be required include front and rear power-take-offs for the four-wheel drive version, a front winch, interior heating, flashing turn signals and a special towing attachment.



"Scout" all-purpose runabout

FLAMEPROOF "BIBO" CONTRACTORS' PUMP

The Ministry of Power's Flameproof Certificate has been awarded to a new version of the Flygt "Bibo 3" electric centrifugal fully submersible contractors' pump.

The new Bibo, which is available for purchase or hire through Flygt's sole U.K. distributors, Industrial Pumps Ltd., of 20 Bentinck Road, Hyson Green, Nottingham, stands 24 inches high, weighs 100lb. and is easily portable by one man.

It has a three-inch discharge, and an output of 12,900 g.h.p. at a pressure head of 20ft. or 3,000 g.h.p. at 80ft. High-delivery or high-head performances are effected by a change of impellers which takes about 10 minutes.

CENTRAX LICENCE AGREEMENT

Centrax, Ltd., Newton Abbot, have been granted a licence by the Rockwell Standard Corporation, U.S.A., for the exclusive rights to manufacture and sell in the United Kingdom, the Rockwell Standard range of planetary axles.

These axles, with capacity up to 150,000lb., feature hypoid gearing, balanced planetary wheel ends, floating ring gear, full float lubrication and a high degree of interchangeability of parts.

Applications include four wheel drive tractors, front end loaders, heavy duty commercial vehicles, large dumpers, scrapers, mechanical handling and mining equipment.

Trade and Company News**NEW COMPANIES**

The undermentioned particulars of new companies recently registered are taken from the daily register compiled by Jordan and Sons, Ltd., company registration agents, 116 Chancery Lane, London.

Storm (Contractors), Ltd., slaters, tilers, etc. £5,000. Directors: John Lumley, 25 Radfield Drive, Odsal, Bradford; Herbert Edgley, 40 Lister Lane, Bradford, 2.

Hanway Concrete Products, Ltd. £1,000. Directors: to be appointed by subscribers. Subscribers: Shirley Hart and Averill Hart, Imperial House, Kingsway, W.C.2.

E. W. Brown (Hutton), Ltd., Maples, Mill Road, Stock, Ingatstone, Essex, builders. £1,000. Directors: Ernest W. Brown and Dorothy E. Brown, Harlequin, North Drive, Hutton.

Granite Builders, Ltd., Midland Bank Chambers, High Street, Weston-super-Mare. £500. Director: Edward B. Moore, 10 Edinburgh Place, Weston-super-Mare.

Veal and Walters, Ltd., Dunromin, Barry Road, Lower Brynamman, Glam., builders. £1,000. Directors: William P. N. Veal, Dunromin, Barry Road, Lower Brynamman; David T. V. Walters, 37 Craig Road, Gwaun-cae-Gurwen, Glam.; Mrs. Mary Veal and Mrs. Valmai Walters.

Glascote Haulage and Plant Hire, Ltd., Argyle Street, Glascoate, Tamworth, Staffs. £5,000. Directors: John Fernyhough, 71 Green Lane, Wilnecote, Tamworth; John M. Hutchison, 146 Cole Valley Road, Hall Green, Birmingham; George P. Cowood, 14 Lingard Road, Sutton Coldfield.

Don Construction Co., Ltd., 45a Market Place, Doncaster, builders. £5,000. Permanent directors: Howard E. Morgan, 29 Cedar Road, Balby, Doncaster; Francis J. Morgan, 27 Grosvenor Crescent, Warmsworth, near Doncaster.

G. J. Finch, Ltd., 45 St. Gabriels Avenue, Peverell, Plymouth, builders. £1,000. Permanent directors: George J. Finch and Edna M. Finch, 45 St. Gabriels Avenue, Peverell, Plymouth.

Park Place (Woking), Ltd., builders. £100. Directors: not named. Subscribers: Norman C. Gardner, 77 Thornton Park Crescent, Kenton (accountant); Edna M. Blazier, 148 Wellington Road South, Hounslow (book-keeper).

D. R. W. Lloyd, Ltd., civil engineering contractors. £1,000. Directors: David R. W. Lloyd and Mrs. Betty M. Lloyd, Hillside, Walters Terrace, Morriston, Swansea.

Buckingham-Render Concrete Co., Ltd., 45 Vivian Avenue, N.W.4. £100. Permanent directors: James B. Buckingham, Rest Harrow, Shenley; David D. Render, 1 Parkside, Potters Bar; Horace W. Almeroth and Keith M. Buckingham.

J. W. Timmins, Ltd., builders. £500. Directors: Joseph W. Timmins and Mary D. Timmins, 278 Galton Road, Smethwick.

Centex (Contractors), Ltd., builders. £200. Directors: Arthur L. Owers and Mrs. Grace W. M. Owers, Little Timbers, Buckhatch Lane, Rettenden Common, Chelmsford.

Conult Constructions, Ltd., 101 Cowley Road, Oxford, builders. £100. Patrick Flanagan, 130 Southfield Road, Oxford, signs as director.

A. French and Sons (Marks Tey), Ltd., builders. £5,000. Directors: Geo. French, 66 Coggeshall Road, Marks Tey, Essex; Horace J. French, 65a Coggeshall Road, Marks Tey, Essex.

Allen and Webster (Builders), Ltd., 3 Frederick Road, Edgbaston, Birmingham, 15. £1,000. Directors: Alfred J. Allen, 12 Wrekin Road, Erdington, Birmingham, 23; Fdk. J. Webster, 169 Salwarpe Road, Charford Estate, Bromsgrove, Worcs.

T. E. Yeomans and Sons, Ltd., 159a St. Leonards Road, Poplar, E.14, builders. £2,000. Directors: Thomas E. Yeomans, John E. Yeomans and Edith Yeomans, all of 119 Upwood Road, Lee, S.E.12.

M. S. G. Builders, Ltd. £2,000. Directors: George Styles and Michael G. Styles, "Heatherbank," Fairmile Lane, Cobham, Surrey.

Fitzpatrick and Nicholson (Southern Contracts), Ltd., builders. £100. Directors: John M. Fitzpatrick, Patrick A. Fitzpatrick and Donald V. Nicholson, addresses not stated. Subscribers: Miss Evelyn M. Gilbey, 216 Makepeace Mansions, N.6; Mrs. Rene L. Morris, 42 Cholmondeley Crescent, N.6.

Speltham Contracts, Ltd., Speltham Hill, Hambledon, Hants., builders and contractors. £1,000. Permanent directors: Roger H. Day and Mrs. Maureen M. Day, Terralyn, Speltham Hill, Hambledon, Hants.

Widespan Construction Co., Ltd., constructional engineers. £100. Directors: Robert B. Milliken and Mrs. Olive M. Milliken, 81 Rushden Gardens, Barking, Essex.

W. Collington and Son, Ltd., demolition contractors. £10,000. Directors: Mrs. A. E. Collington, Stoneleigh, Melton Road, Thurston, Leicester; Peter D. Collington, 125 Lutterworth Road, Leicester.

Jack White (Builders), Ltd., 70 Victoria Street, St. Albans. £100. Directors: Jack P. White, 8 Woodstock Road North, St. Albans; Mrs. Lillian M. V. White, 8 Woodstock Road North, St. Albans.

A. Fruin and Son, Ltd., 42 High Street, Sutton, Surrey, builders. £100. Directors: Alexander G. Fruin and Hilda J. Fruin, 72 Park Avenue East, Ewell.

F. C. Newson and Co., Ltd., 5 Staple Inn, W.C.1, builders. £200. Directors: Wilfrid C. J. Brind, The Elms, Leewood Way, Effingham, Surrey; Fdk. C. Newson, 65 Tattenham Way, Burgh Heath, Tadworth, Surrey; Madeline Brind, The Elms, Leewood Way, Effingham, Surrey.

TRADE NEWS IN BRIEF

The ELFA Quality Specification for Industrial Fluorescent Fittings has been published by the Electric Light Fittings Association, 89 Kingsway, London, W.C.2, price 1s. 6d.

A handbook on vermiculite and its uses, both in building and other industries, has been published by Mandoval, Ltd., 59 Gresham Street, London, E.C.2.

The London sales office of the Evode Group have been moved to 450/452 Edgware Road, W.2. Tel.: Ambassador 2425.

A new booklet, "Dry Construction and Industrial Building," is available from Stramit Boards, Ltd., Packet Boat Dock, Cowley Peachey, Uxbridge, Middx.

Now available from Parkinson Cowan Measurement, Dobcross, Oldham, is a two colour leaflet describing the recently introduced type 33 full flow water meter.

Copies of their 1961 catalogue of Shell films are available, free of charge, from Shell International Petroleum Co., Ltd., 1 Kingsway, London, W.C.2.

The Copper Development Association, 55 South Audley Street, London, W.1, have issued publication 61—Copper-Bearing Steels for Structural Purposes.

The British Steel Piling Co., Ltd., Kings House, 10 Haymarket, London, S.W.1, have published a new brochure on B.S.P. Cased Piles.

A revised edition of their "Plywood" booklet has been published by the Timber Development Association, 21 College Hill, London, E.C.4, price 5s.

United Dominions Trust announce that their branch office in Sheffield, has been moved to Pearl Assurance House, 41/55 King Street, Sheffield, 3 (tel.: 29427/30), and their regional and branch offices in Leeds, to London and Lancashire House, South Parade, Leeds, 1.

Mercantile Credit, Ltd., have opened a new office at Friars House, Friars Place, Chelmsford. Tel.: Chelmsford 57167.

George E. Gray, Ltd., timber importers and distributors, of Ilford, have announced the formation of a new subsidiary, William Hunter (Essex), Ltd., Horns Road, Ilford, to meet the specialised demands of the Essex building trade.

From Le Grand Adscro, Ltd., The Green, Southall, Middx., copies of brochures describing the services offered by the company and their associate, Site Investigations Co., Ltd.

Hemel Hempstead Lightweight Concrete Co., Ltd., Redbourn Road, Hemel Hempstead, Herts., announce that their Hemelite lightweight concrete block is now available with a hard stone finish in a wide colour range.

Thermadare (Great Britain), Ltd., have opened new showrooms at 94-98 Petty France, London, S.W.1.

Higgs and Hill, Ltd., announce that their Midland area office address is now Birmingham Road, Allesley, Coventry. Tel.: Meriden 525.

Armstrong and Sons, Ltd., railway contractors and iron and steel merchants, have moved their registered office from Leadmill Road, Sheffield, to Station Road, Whittington Moor, Chesterfield. Tel.: Chesterfield 5444.

As from July 1, the new address of W. E. Burrell and Co. (Sy.), Ltd., 88 Chipstead Way, Banstead, Surrey, will be 65 Chipstead Way.

NEW RANGE OF SECTIONAL BUILDINGS

A new type of sectional timber building now being produced by Middlesex Prefabricated Buildings, Ltd., Hounslow, Middlesex, has an outer covering of 4in. Douglas Fir plywood instead of the traditional weatherboard or shiplap cladding.

Called the Middlesex SB-2 Range, the building is easy to erect and dismantle. It has a 15 degree pitch roof covered with 2-ply bituminous felt, supported on trusses of T.D.A. approved design. Standard spans are 20ft., 25ft., and 30ft., with lengths varying from 40ft. to 80ft. in 10ft. increments.

MORE AIRPORT WORK FOR PARKER PLANT

Frederick Parker, Ltd., Leicester, have secured an order, for "Starmix" 37 mobile asphalt plant to help extend an airport at Kuching in North Borneo.

The order was obtained as a result of a visit which director Mr. K. J. Parker paid to Borneo recently, and in conjunction with agents, William Jacks and Co. (Borneo), Ltd.



T. J. Richardson and Sons, Ltd., Oldbury, recently supplied a new mobile crane to Messrs. G. Cox. The chassis is a Guy "Invincible" 6-wheeler with a Gardner 6LX 150-b.h.p. engine, powered steering, and double drive rear axles. The crane is a Coles 10-ton diesel electric, powered by a Ford 4D engine. An extension jib can be fitted if required.

FEWER COMPLAINTS TO ALKALI INSPECTORATE IN 1960

Special Review of Alkali, Cement and Tar Works

SUBSTANTIALLY fewer complaints required investigation by the alkali inspectorate in 1960 than in 1959. The degree of justification for complaint varied, says the annual report* of the Chief Alkali Inspector for England and Wales (Dr. J. S. Carter), and was often most intense against some of the smaller works.

During 1960 specific complaints concerning 292 works were investigated, mainly at the request of local authorities. This compared with 354 complaints in 1959 and 133 in 1957. Complaints were most numerous against ceramic works (47), gas and coke works and iron and steel works (33 each), electricity works (32), aluminium works (14) and cement works (11).

The inspectorate's task is to ensure that air pollution from a great variety of industrial processes is reduced to a minimum. Until 1958 they were mainly concerned with processes in the heavy chemical and allied industries; but in 1958 the scope of the Alkali Act was greatly extended to include many other operations (for example, iron and steel manufacture and electricity production), where control of smoke, grit and dust presented problems of special technical difficulty. Generally speaking, processes have been brought under the Act where emissions are particularly dangerous or offensive, or for technical reasons and where there is a particular difficulty of control.

Beginning with the present report, some of the older processes registered under the Act are being selected for historical and technical review. The report deals with alkali, cement and tar works in this way, and there is also a review of alkali waste tips.

Cement Works

The report notes that over 12m. tons of cement were produced in 1960 and that over the years the problem has changed from one of smoke and smell to that of dust emission. It traces the development of the cement-making process to the introduction of the modern rotary kiln which has put an end to smoke and smell, but has resulted in the problem of dust-laden gases leaving the kiln. "The treatment of these dust-laden gases is one of the least tractable of the many problems facing the inspectorate," says the report. With new kilns or new works the problem can be minimised by suitable location of chimney, electric dust precipitator and kiln. The main problem is with existing kilns and chimney arrangements, in which long flues are unavoidable. Condensation is an ever present hazard in such works and precipitators need constant attention and maintenance. "We have therefore required electrical precipitation at older works only in cases of real major complaint such as Thames-side," says the report. Other cases have been met by the installation of high-duty cyclone arrestors which the inspectorate believe will be adequate for medium-sized and certainly for small works.

There is also a low-level dust problem from grinding, conveying and packing of the cement itself, and the report says: "There is really no excuse for bad low-level conditions and inspectors have made this clear. Most works are fully co-operative here but on at least one occasion in 1960 strong representation, which seems to be having the desired effect, had to be made."

Tar Works

As a result of concentration in the tar industry the number of registrations under

the Act has fallen from 341 in 1930 to 107 by the end of 1960. The report traces the development of the various processes and products of the industry, and points out that as from December 31, 1956, when smoke became a listed noxious or offensive gas under the Clean Air Act, the tar industry, "which then included a certain number of offenders, was required to adopt the best practicable means to reduce smoke emission to the minimum."

"The co-operation has been good," says the report. "Complete success has not yet been attained although great progress has been made, especially with larger installations and works. The offenders are usually the small units and special stills. There is no cause for dissatisfaction at the rate of progress. Conditions as regards smoke emission in the industry are vastly improved and further progress is confidently expected."

Noting that some processes are new to the inspectorate, e.g. the new technique of impregnation of fibre pipes and certain routes for production of carbon, the report says that these are "pressing problems to which we have no immediate permanent and complete solution, although temporary measures are being applied."

Alkali Works

Alkali works operating the "salt-cake" process were responsible for the original Alkali Act of 1863, but today only 11 works are registered, and the great bulk of production is by mechanically operated, smokelessly fired units. The report says "plants have operated in a reasonably satisfactory manner." It notes only one infringement of the Act concerning an escape to air of hydrogen chloride.

The inspectorate have statutory powers of control (registration is not involved) over alkali waste heaps which at one time caused problems through the discharge of waste acid products into streams and were a source of evil smells.

The report says "alkali waste heaps, although still calling for attention, are not now a public health hazard. . . ." It adds, "If waste of any kind can be used for land levelling, road construction, etc., it should be."

Power Stations

The inspectorate's main preoccupation has been with the medium-sized power stations, in which the main task is to ensure that the grit arrestment plant is maintained in an efficient state. "There is a difficult and major task ahead here for some years to come," says the report. Power stations burnt over one million tons more oil in 1960 than in 1959, and this method of fuelling gives rise to the problem of acid smuts. "Despite intensive study a complete and general remedy applicable to all power stations is not yet in sight," says the report.

The new stations of 1,000-MW and over are beginning to come into operation and the inspectorate's forward discussions with the Central Electricity Generating Board now refer to even larger units, of up to 2,000-MW, some of which may well be duplicated so as to become 4,000-MW stations. "High efficiency grit arrestment will be essential," says the report, "and chimneys must be in the 600ft. region or above."

Iron and Steel

In a review of the iron and steel industry the report states that although some problems still prove intractable, by and large the major decisions have been taken. "Industry and the inspectorate are agreed," says the report, "on the broad lines of the measures to be taken to deal with the great task in front of us. The cost will be recorded in millions of pounds and man hours; nonetheless there are

grounds for sober confidence that the next two years will see remarkable progress. A sound and satisfactory start has already been made."

Scotland

The number of registered premises in Scotland fell from 325 at the beginning of 1960 to 311 at the end of the year. The decrease was mainly attributable to the closure of gas works, but the number of processes requiring inspection increased, largely as a result of adjustments in the certificates of registration considered necessary after inspection of works, first registered in 1959, e.g. paper works which, on further consideration nearly all appeared registrable as chlorine works as well as for the process and recovery of caustic soda. The total number of visits made to premises registered under the Act was 465.

The iron and steel industry presented the most problems for solution. "In the cold print of a report," says the Chief Inspector for Scotland (Dr. E. A. Balfour Birse), "progress may not seem so impressive as it is in fact. Again the scale on which fume treatment has to be undertaken is not always easy to appreciate and the results may be overshadowed by other discharges of long standing. Fume treatment for an open hearth furnace may be in the order of £100,000. The expensive treatment at smaller furnaces, such as are used in the steel foundry industry, will be less but still substantial. The overall cost to the iron and steel industry seems likely to be several million pounds, spread over a period of years. It is greatly to the credit of the industry that this onerous task is being faced with determination and good will."

NEW LOOK FOR VILLAGE SCHOOLS

The Ministry of Education's Building Bulletin No. 3, "Village Schools" (H.M.S.O., price 5s. 6d.) is the first of the series to deal specifically with the requirements of the smaller village primary school. It discusses the problems peculiar to the village school in which children of a wide age range from 5-11 often have to be accommodated in two or three classes. It also suggests a number of solutions which seek to give children in a rural area the normal educational opportunities found in a large primary school and yet create a domestic atmosphere where they will feel at ease and be able to make the most of their rural environment.

One of the Ministry's Development projects in this field—a two-class primary school at Finmere, Oxfordshire—is described in considerable detail. This is followed by a briefer survey of a range of new village schools in Lincolnshire, Texas (U.S.A.), Oxfordshire, the Isle of Ely and Berkshire. The Bulletin also discusses the problems of remodelling older village schools and suggests ways in which some of these buildings can be brought up to the standards of lighting, amenity and general facilities which one would expect in a new school building of this type. The survey is completed by a review of four recently remodelled village schools in Nottinghamshire, Northamptonshire and Oxfordshire.

The appendices give full details of plan and cost analyses of the Ministry's Development projects at Finmere, Oxfordshire, and Great Ponton, Lincoln, and a short bibliography on rural education.

£14M. MERTHYR DEVELOPMENT Tenders to be Invited This Year

Tenders are expected to be invited towards the end of the year for the erection of 60 shops, flats, a supermarket and bus station in the centre of Merthyr Tydfil, Glam.

Estimated to cost £14m., the scheme has been designed for Chesterfield Properties, Ltd., London, W.1, by H. A. Halpern and Partners, 58-60 Cannon Street, London, E.C.4.

*Ninety-seventh Annual Report on Alkali, etc., Works, by the Chief Inspectors, 1960. Presented to the Minister of Housing and Local Government, and to the Secretary of State for Scotland. H.M.S.O., price 4s.

Talking of Safety

by
"DRAGEE"

"WELL, I'll be blown," said Jack Carson, the agent. "Here—have a look at this."

I took the letter. It was from the Labour Manager, and it concerned a certain Mr. Joseph Perkins who was seeking employment as a maintenance fitter. It went on to mention that Mr. Perkins had recently served a short term of imprisonment, that he was anxious to "find his feet" again, and that the Company would like to give him an opportunity to make good. "Mr. Perkins has been employed by us previously" said the letter, "and we have always found him to be a willing and competent worker. If you are able to engage him, we suggest you might mention discreetly that you know something of his unfortunate background, and that he will be expected to conduct himself in a proper manner. . . ."

"Good old Popeye," said Carson. (The Labour Manager was known to be inordinately fond of spinach.)

"Do you know the man?" I asked.

"Sure thing I do. We had him years ago, just after his second conviction for breaking and entering—that's his speciality. Oh well, I suppose we'll have to take him on. Call him in, will you? He's waiting in the outer office."

I brought him through, then waited to see how Carson would handle the rather delicate situation.

"Now, look here," he said. "I'm going to give you a start. I know all about you so don't try any monkey-business, or else you'll be slung out on your scruffy neck."

Perkins grinned amiably. "That's O.K. with me, guv. Me and the missus 'as settled in this manor for keeps, so I don't want no trouble."

I didn't see Perkins for several days after that. We were trying out a new type of locking device for the hoist gates, and after some initial difficulties the thing appeared to be working properly. It wasn't a very popular experiment. The men were working at peak pressure, and collecting a fat bonus, so it was clear that the brief but necessary interruptions would

"Dragee," who is a practising safety engineer, would welcome subjects for discussion in this column. All names of persons mentioned in these discussions are entirely fictitious. Questions of law are expressed as the author's personal opinions and are not claimed to be authoritative.—EDITOR.

not be exactly welcome. Even George Blake, the foreman—normally a keen man for safety—was dubious.

"The lads won't like it, having to fiddle with that gadget every time they open a gate," he said. "Anyway, we'll try it."

I was back at the site on the following Monday. At noon Jack Carson and I went out together for lunch. We got back early to the site office because Carson was expecting an important telephone call, and it was then that he discovered he had left his keys on the desk. The two clerks were still away, and Carson stood fuming impatiently outside the door.

At that moment Perkins arrived.

"Locked out, sir?" he said. Carson nodded gloomily. "Right, sir—I'll fix it."

He shot away, and returned a few moments later with a brace and bit, a 4in. nail, and a hammer. Within a matter of seconds the door was open. Carson stared.

"Well, I'll be ——" he said.

Perkins shrugged modestly. "Very simple sir. When you know how. And now I'd better fix it so's nobody else can open it that way." And he did.

I went away again for a couple of weeks, and when I got back to the site Carson was looking rather worried.

"It's this hoist interlock," he said. "George Blake tells me there's something fishy going on."

"In what way?"

"I don't know exactly—we've only just got wind of it. As you know, we expected some trouble when it was installed, and for a few days we got it. Then everything suddenly died down. George thinks they've discovered some way of fiddling the interlock. Doesn't know how, but he's on the lookout."

Blake came into the office just then.

"I've caught one of the blighters at it," he announced breathlessly. "The man at the top level was bringing up the hoist with the gate wide open. He didn't see me until it was too late." He held out a small flat metal object of a peculiar shape. "He had this stuck in the gate lock, and I've a pretty good idea who made it—and a few more like it!"

Carson swore, and then thumped the desk.

"Bring him in here," he said.

Perkins was led in, looking as cheerful

as ever. I wondered how he was going to get out of that one.

"Quite right, sir," he admitted readily. "I made a set of keys for the lads because they thought they were losing bonus money."

"I suppose you didn't make anything out of it?" Carson said sourly.

"Well—a few bob on the side, that didn't hurt anybody," said Perkins. "But I've fixed it now, sir."

"Fixed it?"

"Yes—I done all the locks up so as they can't be fiddled. You see, sir, it's a kind of improvement, isn't it? Only don't tell the lads I done it, will you?"

Carson clutched the table. "Clear out," he said, "before I brain you."

After he had gone he turned to me. "What the hell do we do with him now?"

The question was answered for us the next day, with the arrival of the police. It appears that at the last Assizes Perkins had omitted to ask for a certain misdemeanour to be taken into consideration, and once again fate had caught up with him.

U.N.E.S.C.O.'s NEW BUILDING

Tenders to be Invited

As officially announced on page 1644, tenders are to be invited by U.N.E.S.C.O. for the erection of a fourth building and underground garage on the site of its permanent headquarters in Paris. The work will begin in April, 1962, and end in September, 1963.

Builders and specialist contractors wishing to tender for one or more of the 21 sections of the work, which will be let under separate contracts, are invited to apply for forms and information between July 4 and 31, 1961, in person or by post to U.N.E.S.C.O., Place de Fontenay, Paris. Completed forms must be returned before October 1, 1961, and U.N.E.S.C.O. will select from among the applicants a list from whom tenders will be invited.

£250,000 CONTRACT FOR WILLIAMS AND WILLIAMS

Newcastle upon Tyne City Council have awarded the contract for bronze windows and curtain walling for the new town hall to Williams and Williams, Ltd., Chester.

The contract, probably the largest one placed for bronze windows in Britain since the Second World War, is worth approximately £250,000.

INDUSTRIAL WEED CONTROL SYMPOSIUM

Mr. C. R. Chadwick, deputy county surveyor, Northamptonshire, will be one of the speakers at an Industrial Weed Control Symposium to be held at the Royal Commonwealth Society, London, W.C.2, on June 30.

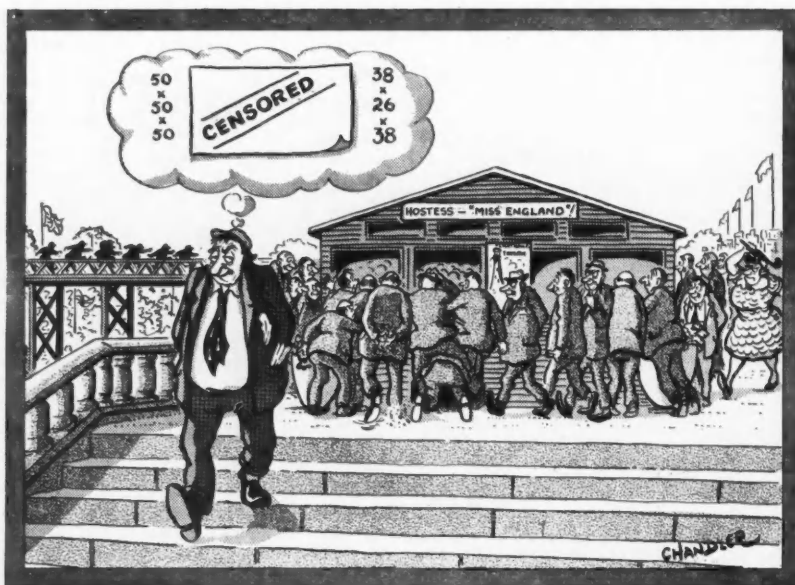
The symposium is being organised by the British Weed Control Council and the Pesticides Group of the Chemical Industry. Applications for registration forms can be obtained from the secretary, Mr. W. F. P. Bishop, 52 Bedford Row, London, W.C.1.

BOOK REVIEWS

Building Board Directory, 1961. Publishers: The Middlesex Publishing Co., Ltd., 194-200 Bishopsgate, London, E.C.2. Price 5s. 193pp.

The new edition of this comprehensive book of information on building boards has been completely revised and lists all such products as hardboards, insulation and asbestos boards, acoustic tiles, plastic sheets, plywoods and expanded polystyrene sheets.

The 11 sections contain details of 35 new products, and the guide to importers and distributors has been expanded. More than 50 brand names have been added to the plywood register, and the reference section includes metric, price and stock conversion tables as well as statistical information.



Member of the Lighthouse Club considering the possibility of another deal

TRAINING IN THE CIVIL ENGINEERING CONTRACTING INDUSTRY

Opportunities Discussed at Cardiff Conference

FOLLOWING a conference organised by the Industrial Training Council in Cardiff last April, at which all sections of industry considered the problem of Training and "the Bulge", the South Wales and Monmouthshire Section of the Federation of Civil Engineering Contractors recently held a meeting to discuss training opportunities in that industry.

Mr. D. V. Gaulter, general secretary of the Federation, outlining the various training schemes within the industry, said that great opportunities existed in civil engineering for young men at all levels of academic attainment.

In 1955, the Federation had devised a scheme for the training of contractors plant mechanics. The main scheme covered a five year service agreement for boys between 15 and 17 years. The syllabus included training in major repair and periodic overhaul on a wide variety of plant; day release was arranged for young men up to the age of 18 years to attend courses at technical colleges.

A supplementary training scheme for maintenance mechanics had recently been introduced. This covered a three-year training period on minor repair work and detailed periodic servicing and maintenance on site of normal types of mechanical plant used in the industry. Mr. Gaulter emphasised the fact that plant was one of the most important elements in contract work and the Federation was therefore particularly keen that the schemes outlined should be widely utilised.

Training in Concrete

Last year pilot courses in concrete work had been organised at Wexham Springs, near Slough, jointly by the Federation and the National Federation of Building Trades Employers. These courses had proved most successful and a further two had already taken place during 1961. Three more courses would be held in the autumn, for which all places had been taken. Plans were already far advanced for similar courses to be held during 1962. The courses constituted two separate weeks'

instruction at the Centre and consisted of lectures, practical demonstrations and site visits.

Apart from those who entered the industry with the definite object of obtaining a professional qualification, Mr. Gaulter said there was a great need for young men of the right calibre to undertake a course of training which would enable them to supervise the more routine types of contract. The Federation's Training Committee had devised a scheme for such men which included both practical and academic training. Discussions on the proposal were being held with the Ministry of Education and the professional bodies.

The scheme for the practical training of young engineers, set up in 1944 by a Joint Committee of the Federation and the Institution of Civil Engineers, had proved most successful. Firms wishing to participate had to make application to be included on the index; a decision on this matter depended on the nature of the work being undertaken and the number of qualified civil engineers on the staff. At the present time there were 142 members on the index with a total training capacity of 780 pupils; 400 were studying under this scheme at the present time.

Scholarship Trust

The Civil Engineering Scholarship Trust had been established in 1958, said Mr. Gaulter. The total amount receivable by the Trust over a seven-year period was around £120,000, the greatest part of which came from contractors. The South Wales and Monmouthshire Section of the Federation was the only one which had so far provided a named scholarship. The number of scholarships given were: 1958—10; 1959—17; 1960—18. It was likely that over 20 scholarships would be granted this year.

Management Training

Mr. Gaulter stated that the Federation's Training Committee had given careful consideration to the question of management training, and arrangements had been made for an initial training course to be held at

the Urwick Orr Management Centre, Slough, Bucks., from September 18 to 22.

He concluded by saying that the civil engineering contracting industry offered a challenging, interesting and satisfying career for young men who were keen to play their part in an industry which was vital to the economic life of the country. The Federation's Training Committee would continue to work out comprehensive schemes of training which would enable young men to know they would have every opportunity of attaining the highest rewards commensurate with their abilities.

MANCHESTER T.V. BLOCK COMPLETED

A 10-storey administration block—phase IV of the Granada T.V. Centre development plant at Manchester—has been completed at a cost of £465,000 and will shortly be opened.

Rectangular in shape, the block measures 243ft. by 46ft. 7in. and has in-situ concrete columns, with in-situ concrete floors and roof slabs. The walls are brick, hollow block and specialist finished, the two main areas being clad in anodised aluminium curtain walling carrying windows and vitreous-enamelled spandrel panels below sill level. The two end walls are of Staffordshire blue brick. The building is sound-proofed throughout and has acoustic ceilings.

A residential penthouse over the new offices is surmounted by a plant room for an £80,000 heating, ventilating and hot water system, and switchgear for the three high-speed lifts that serve the block.

The main contractors are J. Gerrard and Sons, Ltd., of Swinton, the main sub-contractors are Truscon of London, and the architect is Ralph Tubbs, F.R.I.B.A.

R.I.C.S. OFFICERS, 1961-62

The following have been elected officers of the Royal Institution of Chartered Surveyors for 1961-62.—President: Mr. E. C. Strathon (London); senior vice-president: Mr. G. H. Heywood (Manchester).

Vice-presidents: Mr. C. D. Pilcher (Brighton), Mr. G. D. Walford (Liverpool), Mr. Henry W. Wells (London); honorary secretary, Mr. E. Harold Palmer (London).

MUNICIPAL ENGINEERS VISIT DERBYSHIRE STONE QUARRY

From a Correspondent

NEARLY 60 members of the East Midland District of the Institution of Municipal Engineers recently met at the Cauldon Low Quarry and Works of the Derbyshire Stone, Ltd., and after an initial discussion proceeded in parties on a tour of the works.

The quarry workings are amongst the most modern in the country and have been highly mechanised in recent years. Whilst the main interest was in connection with the needs for road works, it was also interesting to note the arrangements for supplying high grade limestone to the sugar beet industry, for railway ballast, and to some extent block stone for the Manchester Ship Canal.

The plant is of the latest type of automatic control and the panel room, operated by one member of the staff, was a model of automation. By press button control, mixes of all grades of coated macadam can be produced to any appropriate B.S.S. The modern loading and transport system to the crushing plant ensures continuous working and production, and the crushers produce all required grades for both dry and coated stone.

The parties re-assembled at the main works offices to adjourn for lunch where

they were welcomed by Mr. John Hadfield, chairman of the Group of Companies, with Mr. Harold Fletcher and other senior members. A general discussion ensued, and an interesting highlight was Mr. Hadfield's enlightening speech of welcome in

which he recalled that the history of the quarry went back nearly 200 years, being originally used in connection with the early Staffordshire Canal System.

Mr. Hadfield was thanked by the district chairman, Mr. M. L. Francis, borough engineer and surveyor, Derby.

General arrangements for the meeting were made by Mr. G. Henderson, assistant managing director, in conjunction with the district hon. secretary, Mr. N. Chamberlain (Matlock).



Members seen during their visit to Derbyshire Stone quarry

THE WORK OF THE BUILDING ADVISORY SERVICE

Assignments Continue to Increase

SINCE the end of 1955 the Building Advisory Service has carried out assignments of various kinds for over 300 building firms. In many cases B.A.S. has been offered second and third assignments for the same firm. The greater number of assignments have been received from firms in the 100/500 employee group. The smallest firm assisted had 26 employees and the largest 3,000 plus.

These are some of the facts given in a report on the work of the Building Advisory Service up to May, 1961, recently submitted to the Council of the National Federation of Building Trades Employers.

The Building Advisory Service was started in April, 1954, and its success is evident from the continual increase in the number of consultants necessary to carry out assignments. Starting with one senior consultant and three trainee consultants, the staff has grown to one senior consultant, 10 consultants and three clerical assistants. The consultancy staff now includes most building and civil engineering professions in addition to three consultants who are qualified in accountancy and company secretarial practice.

Assignments

The report continues: In addition to the normal building problems of planning, site organisation, costing, etc., B.A.S. has carried out assignments in connection with joinery shops, plant depots, builders' merchants, precast concrete works, rock drilling, the organisation of a drawing office and a large architects' department.

An increasing number of assignments are connected with the introduction of sound incentive schemes. As a general principle B.A.S. insist on efficient planning of work before incentives are introduced.

A considerable amount of research has been carried out in connection with financial and cost accounting. As a result of this research it is now possible for B.A.S. to install a system of integrated financial/cost accounts which enables a building firm to produce cost/value comparisons within 24 hours of the interim measure-

ments and quarterly profit/loss accounts broken down to types of work or to departments. In most instances this can be carried out without additional staff.

Courses

Appreciation courses in work study were commenced in the winter of 1956/57. From these a work study/planning course was developed and ran successfully for two years. In response to a wide demand the subjects were made the object of separate courses and are still the most popular courses run. In 1959 a six-week training course for work study officers was included in the programme and two such courses have been run each year. The number of these courses is limited because three of the six weeks are spent on site and reasonably fine weather is desirable.

In 1960 a four-week course for the training of planning officers was instituted. Again, two such courses are run each year. A few appreciation courses (two for "Director level" only) on "Management" have been run for the benefit of the senior staff of building firms. Four of these courses are to be run during the 1961/62 session (September to April) and will become a regular feature of the course programme.

Beginning with five weeks of courses in 1956/57, B.A.S. has progressed to 33 weeks of courses at N.F.B.T.E. headquarters in New Cavendish Street during the 1961/62 session. Over 100 places have been booked on these courses, which commence on October 9. One course in November is already fully booked.

In addition to the courses at headquarters, a number are held in the provinces at the request of Regional Federations, local associations and individual firms. In respect of both individual assignments to building firms and courses the fees B.A.S. charge are approximately only two-thirds of those of other consultancy organisations.

Lectures

The staff continue to lecture on various management techniques at meetings sponsored by the Ministry of Works, Regional Federations and institutions connected

with the building industry and articles are contributed to the technical press.

As a matter of interest, it may be mentioned that the Australian Institute of Builders, the Master Builders Federation of Australia and the Federation of Civil Engineering Contractors have combined to form the Construction Management Advisory Service on the lines of B.A.S. Mr. G. J. Hunt, one of the first consultants recruited by the Service, has been selected to head this organisation and leaves for Australia at the end of June.

CHESTER BOTTLENECK TO GO £119,811 Improvement Scheme

Mr. Ernest Marples, Minister of Transport, has made a grant of £76,824 to the City of Chester towards the cost, estimated at £119,811, of widening Pepper Street, which forms part of the proposed southern section of the Inner Ring Road of Chester.

The scheme provides for a new carriage-way 30ft. wide and an improvement at the junction of Pepper Street with Grosvenor Street and Bridge Street.

The widening of Pepper Street will involve the demolition of some old residential property and the area is to be redeveloped generally for business purposes.

The scheme has been designed by the Chester city engineer (Mr. A. H. F. Jiggins, M.I.Mun.E., A.M.I.C.E.), and the work will be carried out by contract.

VICTORIA EXPANDS BUILDING PROGRAMME

The Housing Commission in Victoria, Australia, has announced an expanded building programme as a result of the bigger allocation of housing funds made by the recent Premiers' Conference in Canberra.

In Victoria, the new Housing Commission programme means an expenditure of £A10m. Tenders are already approved for building 672 housing units at a cost of £A2,250,000. Most of these will be in country areas. Tenders for between 300 and 400 more housing units will be called within the next eight weeks.

BRITISH STANDARDS

Class II metal-arc welding of steel pipelines and pipe assemblies

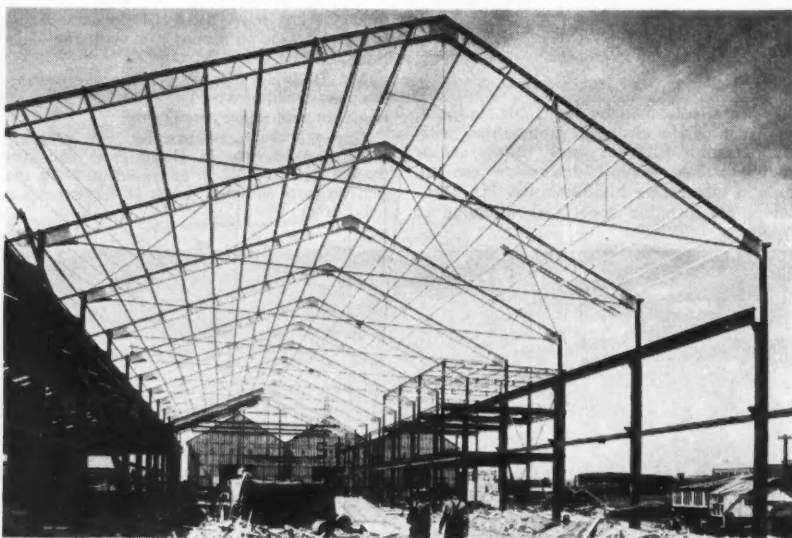
Lack of uniformity in welds employed for joints in pipelines and pipe assemblies carrying fluids and for securing flanges and attachments such as anchor plates, to pipes can result from variations in practice as regards weld preparation, welding and heat treatment procedures, the training and testing of welders and the inspection and testing of production welds.

Good practice in all these respects having now been established, a series of British Standards is being issued to cover the production of welds in pipelines and pipe assemblies of any material used sufficiently widely to warrant its inclusion.

B.S.2971: 1961 is the fourth standard in this series. It covers shop and site metal-arc welding of joints in carbon steel pipelines and pipe assemblies up to and including 24in. (610mm) diameter carrying fluids suitable for Class II conditions and also the standards of workmanship of which the welders shall be capable and the standards to which the welds shall conform. It deals with butt welding, with or without a backing ring, where the welding is done from the outside only, and the welding of gusseted bends, sleeve joints, branches and flanges. Price 12s. 6d. net.

Copies of these British Standards may be obtained from the British Standards Institution, Sales Branch, 2 Park Street, London, W.1.

A film on Christopher Wren by John Reid, with a commentary by Sir Basil Spence, will be shown on B.B.C. Television at 8.55 p.m. on Tuesday, July 4.



To meet increasing demand for their range of standard steel buildings, Sanders and Forster, Ltd., are adding another 70,000 sq. ft. of manufacturing and office space to their Stratford works. Above can be seen the heavy crane building and its tied-portal type construction. The structural steel is being designed, fabricated and erected by Sanders and Forster. The office block has been designed by A. J. Fowles, F.R.I.B.A., Ford and Walton, Ltd., are the general contractors, and W. G. Cannon and Sons, Ltd., are the heating and ventilating engineers

THERMO-NUCLEAR RESEARCH LABORATORY UNDER CONSTRUCTION

Progress at U.K.A.E.A Establishment

The steel framework of a giant thermo-nuclear research laboratory is rising above standing corn and aircraft runways on the site of the former naval airfield at Culham, near Oxford.

This building, which consists of one main experimental hall 50ft. high and with a floor space of 40,000 sq. ft., will be the largest of a number of buildings on the site housing initially a continuation of some of the research now being carried out at Harwell.

The establishment, which is about half completed, should be finished next year.

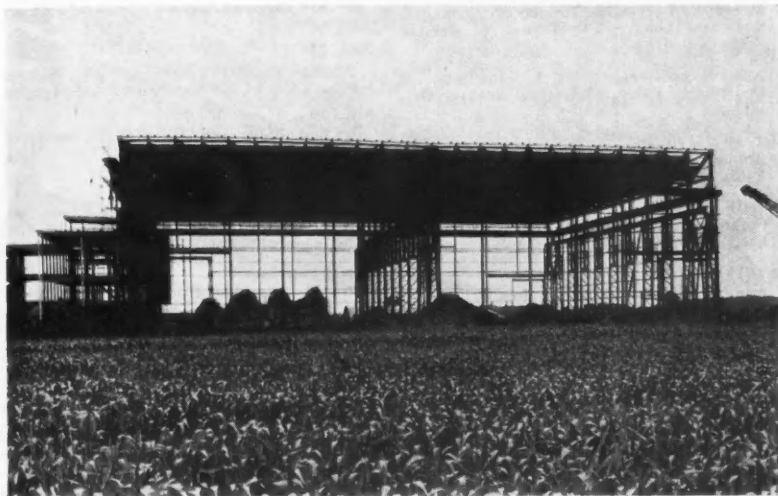
The contractors, M. J. Gleeson (Contractors), Ltd., who also built the original U.K.A.E.A. Industrial Group Headquarters buildings at Risley in 1955, state that the contracts awarded to date at Culham amount to over £1½m. and that the second phase is due to be completed by the middle of next year.

The first part of the contract consists of the main experimental hall with asso-

ciated laboratories and design accommodation and service buildings. There is a boilerhouse, a 500,000-gallon reservoir, a general services building and fire station and various electricity sub-stations. It has been necessary to install gas mains, drains, trade waste drains and a trade waste treatment plant.

Both large and small experiments can be accommodated in the main experimental hall which is 180ft. by 230ft. by 50ft. high. It is linked by a 17,000 sq. ft., three-storey office block, housing design and administration staff, to an L-shaped laboratory wing occupying a further 14,500 sq. ft.

The site will be extended under phases II and III. Phase II is now being designed and a start is about to be made on construction. This phase comprises further experimental accommodation and two small experimental halls. Also associated with this is further office and design accommodation, together with a restaurant, library and lecture hall. Design work on Phase III will be starting in the near future.



Framework of thermo-nuclear laboratory

FOUR-INCH CEDAR UMBRELLA FOR LANCASHIRE ASSEMBLY HALL

The Architects' Department of Lancashire County Council has pioneered the way for four-inch Western red cedar decking manufactured in British Columbia, choosing it for the roof of a large multi-purpose assembly hall which forms part of a phased building plan for Lancaster and Morecambe College of Further Education.

Designed by Mr. C. H. Simmons, county architect, as a domed hexagonal structure, with seating accommodation for 500, the newly completed hall is a good example of timber engineering principles applied to modern architecture. It consists essentially of 12 glued laminated portal frames arranged spoke-wise and joined at a common apex by a special steel ring. These are covered above with a light-weight cedar canopy combining roof and ceiling and, at the side, are curtained by joinery panels.

In plan the roof is a hexagon formed by six equilateral triangles of 42ft. side. Each of three pairs of portals carried out to the projecting angles of the roof has a clear span of 82ft., while the six intermediate portals provide arches of slightly shorter

span. The portals are of B.C. Douglas fir bonded with resorcinol adhesive and suitably finished to constitute a decorative internal feature of the building.

The glu-lam members, tapering towards foot and apex, were fabricated, erected and clad with cedar decking by William Kay (Bolton), Ltd., in conformity with the overall building programme entrusted to the main contractors, William Eaves and Co., Ltd., of Blackpool. The decking was shipped to this country through the agency of Wm. Brandts (Timber), Ltd., London.

Erection

In this, the first reported application of 4in. double T. and G. cedar decking in the United Kingdom, the fully manufactured 4in. x 6in. nominal planks were laid at right angles to the line of the intermediate portals, each of which represents the perpendicular divider of a triangle. A random length specification of 4in. x 6in. cedar decking was utilised and the cladding operation began at eaves level. As each successive course of planks was placed in position, length requirements diminished and the whole roof area (a little

INSTITUTION OF STRUCTURAL ENGINEERS

President and Council for 1961-62

At the recent annual general meeting of the Institution of Structural Engineers, the following honorary officers and members of Council were elected for the Session 1961-62 and will take office in October.

President

Mr. F. R. Bullen, B.Sc.(Eng.), M.I.C.E.

Vice-presidents

Messrs. E. N. Underwood, B.Sc.(Eng.), M.I.C.E.; F. M. Bowen, M.I.C.E., Assoc.I.Mech.E.; H. C. Husband, B.Eng., M.I.C.E., M.I.Mech.E.; D. A. G. Reid, B.Sc.(Eng.), M.I.C.E.; D. D. Matthews, M.A., M.Sc.(Eng.), D.Eng., M.I.C.E.; and Brian Scruby.

Honorary Treasurer

Mr. K. F. Bird, A.M.I.C.E.

Honorary Secretary

Dr. A. R. Collins, M.B.E., D.Sc., M.I.C.E.

Honorary Librarian

Dr. F. G. Thomas, Ph.D., B.Sc.(Eng.), M.I.C.E.

Honorary Editor

Mr. G. C. A. Greetham, O.B.E.

Honorary Curator

Mr. Kenneth Severn, M.C., M.A., M.I.C.E.

Members of Council

Messrs. P. Mason, B.Sc.(Hons.), M.I.C.E.; D. W. Cracknell, M.I.C.E.; R. D. McMeekin, M.I.C.E.; and Dr. W. Eastwood, B.Eng.(Hons.), Ph.D., A.M.I.C.E.

Associate-members of Council

Mr. G. B. Godfrey, A.M.I.C.E., A.M.I.Mun.E., and Mr. E. H. Cooley, M.A., A.M.I.C.E.

A.B.T. CLERK OF WORKS DIPLOMA

The Association of Building Technicians announce that the following candidates were successful in their recent examination for the A.B.T. Clerk of Works Diploma:—

J. Andrews (Salisbury, Southern Rhodesia); A. B. D. Boswell (Salisbury, Southern Rhodesia); D. H. Brain (Salisbury, Southern Rhodesia); P. R. Stirling (Salisbury, Southern Rhodesia); D. I. R. Brown (Ruabon, North Wales); A. E. Dow (Moreton, Cheshire); J. E. Edwards (Wrexham); R. W. Goad (Harrow); J. Gaunt (Bury); I. J. Richards (Yiewsley, Middlesex); G. A. Weeks (Cheshunt, Herts).

over 4,500 sq. ft.) was covered with a minimum of waste. Each course of planks was face-nailed with 6in. nails to the portal members and horizontally to the preceding course by means of 8in. nails driven through holes pre-drilled in British Columbia as part of the manufacturing process.

The upper surface of the completed cedar decking was covered first with waterproof felt and then with an outer sheathing of sheet copper. In the estimate of the Copper Development Association, whose technical staff acted in an advisory capacity while the sheathing was being laid, the Lancashire hall is the largest hexagonal copper covered structure in Europe. The under-side of the decking, sealed with a clear lacquer, is exposed as a simple V-jointed ceiling.

NEW POPULATION TARGET FOR CWMBRAN

Mr. Henry Brooke, Minister of Housing and Local Government and Minister for Welsh Affairs, has agreed that the Cwmbran Development Corporation should continue building the New Town until the population reaches 45,000. Ultimately the town is expected to hold 55,000 people. The target when the Development Corporation was appointed in 1948 was 35,000.

FOR THE DIARY

July 3
International Union of Architects Congress, London, July 3-7.

July 4
Southern Counties Federation of Building Trades Employers' Summer Conference, Oxford, July 4-5.
Chartered Surveyors Annual Conference, University of Leicester, July 4-8.
Meeting of the Manchester and District branch of the Contractors Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale, 7.30 p.m.
Meeting of the Mid-Southern branch of the Contractors' Mechanical Plant Engineers, Calcot Golf Club, Bath Road, near Reading, 7.30 p.m. Film show by Saville (Tractors), Ltd.

July 5
Building and Public Works Exhibition, Belle Vue, Manchester, July 5-15.

July 12
Half-yearly general meeting of the National Federation of Building Trades Employers, Blackpool, July 12-14.

July 14
Midland branch of the Contractors' Mechanical Plant Engineers. Summer flannel dance, George Hotel, Solihull.

July 18
Meeting of the Southern Counties branch of the Contractors' Mechanical Plant Engineers, "Queen Victoria," North Cheam, Surrey, 7.30 p.m.

July 21
Half-yearly meeting of the Midland Federation of Building Trades Employers, Trentham Gardens, Stoke-on-Trent.

Aug. 1
Meeting of the Manchester and District branch of the Contractors Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale, 7.30 p.m.

Aug. 20
Midland branch of the Contractors' Mechanical Plant Engineers. Treasure trail.

Aug. 29
Meeting of the Mid-Southern branch of the Contractors' Mechanical Plant Engineers, Calcot Golf Club, Bath Road, near Reading, 7.30 p.m. "Plant Insurance," by T. Kemp.

Sept. 5
Meeting of the Manchester and District branch of the Contractors Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale, 7.30 p.m.

International Packaging Exhibition, Olympia, London, Sept. 5-15.

Sept. 7
Meeting of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4, 7.30 p.m.

Sept. 18
International Conference on Timber Engineering at Southampton University, Sept. 18-23.

Sept. 26
Western branch of the Contractors' Mechanical Plant Engineers. Supper dance at Ashton Court County Club.

Oct. 3
Conference of the Association of Public Lighting Engineers, Scarborough, Oct. 3-6.
Meeting of the Manchester and District branch of the Contractors Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale, 7.30 p.m.

Oct. 5
Meeting of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4, 7.30 p.m.
Convention on "Planning for Traffic" arranged by the Institution of Municipal Engineers, London.
Meeting of the Institution of Structural Engineers, London, Presidential Address.

Oct. 9
Annual conference of the Institute of Quarrying, Palace Hotel, Torquay, Oct. 9-13.

Oct. 10
Annual dinner of the Contractors' Plant Assn., Dorchester Hotel, London.

Oct. 18
Forty-sixth International Motor Exhibition, Earls Court, London, Oct. 18-28.

Oct. 19
Annual dinner of the Institution of Mechanical Engineers, Dorchester Hotel, London.

Oct. 20
Annual dinner of the Yorkshire Federation of Building Trades Employers, Queens Hotel, Leeds.
Autumn general meeting of the Southern Counties Federation of Building Trades Employers, Connaught Rooms, London, 10.30 a.m.

Oct. 25
Meeting of the Institution of Mechanical Engineers, 1 Birdcage Walk, Westminster, London, S.W.1. Presidential Address.

Oct. 31
Annual dinner of the British Road Tar Assn., Grosvenor House, London.

Nov. 2
Meeting of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4, 7.30 p.m.

Nov. 7
Meeting of the Manchester and District branch of the Contractors Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale, 7.30 p.m.
Institution of Civil Engineers, London, Presidential Address.

Nov. 10
Scottish Motor Exhibition, Kelvin Hall Glasgow, Nov. 10-18.

Nov. 13
Factory Equipment, Heating, Ventilation and Thermal Insulation Exhibition, Earls Court, London, Nov. 13-18.

Nov. 15
Building Exhibition, Olympia, London, Nov. 15-29.

Nov. 21
Annual banquet of the National Federation of Roofing Contractors, Grosvenor House, London.

Nov. 22
Annual general meeting of the National Federation of Roofing Contractors, London.

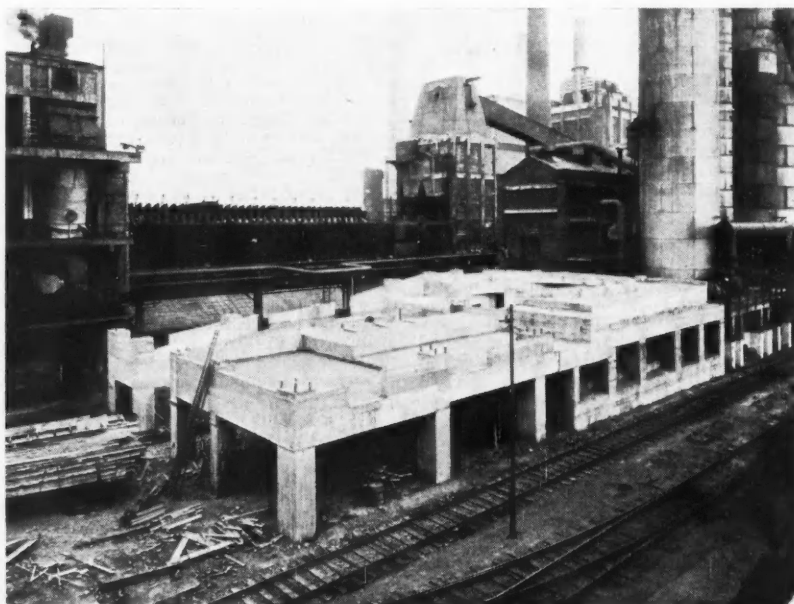
Nov. 30
Annual dinner and dance of the Institution of Water Engineers, Park Lane Hotel, London.

Dec. 1
Winter general meeting of the Institution of Water Engineers, at Institution of Civil Engineers, London.

Dec. 4
Royal Smithfield and Agricultural Machinery Show, Earls Court, London, Dec. 4-8.

Dec. 7
Annual dinner and dance of the Midland branch of the Contractors' Mechanical Plant Engineers, Town Hall, Sutton Coldfield.

Dec. 8
Federation of Master Builders' London Region "Ladies Night," Grosvenor House, London, 6.30 p.m.



The blast furnace foundations

BLAST FURNACE FOUNDATIONS REQUIRED OVER 3,000 TONS OF CONCRETE

HEAVERY reinforced concrete foundations for a new blast furnace and cast house have just been completed for the Ford Motor Co., Ltd., at Dagenham, Essex.

The foundations required more than 3,000 tons of concrete which was placed in position by a 95ft. high tower crane at the rate of up to 200 tons each day. In addition foundations were laid for a passenger elevator.

To ensure that work was completed exactly according to schedule so that the furnace erectors could begin their work on an agreed date, the contractors, Holland & Hannen and Cubitts (Great Britain) Ltd., maintained daily liaison on the site with the client and consulting engineer, John Mason, A.M.I.C.E., M.I.Struct.E.

SOLARTRON FACTORY DEVELOPMENT

Further Stage in Large-scale Expansion

A FIVE-STORY office block and single-storey factory extension for the Solartron Electronic Group, Ltd., at Farnborough, Hants., has been completed by Taylor Woodrow Construction, Ltd.

This is the second stage of a planned four-stage, £14m. expansion being carried out on a 15-acre site at Tower Hill, Farnborough, for the Solartron Group on which Taylor Woodrow began work in 1957. Architects, engineers and surveyors for the whole project are Raglan Squire and Partners of London.

When it is completed in four or five years' time, one of the most up-to-date factories in Europe, with an area of approximately 350,000 sq. ft., will house comprehensive manufacturing facilities in the electronics and associated fields.

The five-storey office block, 213ft. long,

33ft. wide and 52ft. high is of reinforced concrete frame construction and the factory extension, 330ft. long by 160ft. wide, consists of Arcon Monitor Roof industrial buildings. Taylor Woodrow were responsible for the design of the structural frame to the office block and foundations to the factory.

An interesting feature on the front elevation of the office block is the architects' impression of an electronic wave form. It consists of a white rendered concrete panel, about 25ft. long and 8ft. high, the design of which is made up of coloured mosaic tiling.

The site was waterlogged marshland, and in order to excavate the factory and office foundations, a dewatering system was installed to reduce the water table by 6ft. during the excavation period. (Sub-contractor, Dridig, Ltd.)

NEW WATER BOARD PROPOSED

REPRESENTATIVES of seven local authorities meeting recently decided to set up the Eden Water Board to serve North Westmorland and East Cumberland. The authorities represented were the Cumberland and Westmorland County Councils, Appleby Borough Council, Alston Rural Council, North Westmorland Rural Council, Penrith Rural Council, and Penrith Urban Council.

They agreed to draft an order constituting the new board and appointed a working party composed of one representative and the clerk of each of the councils. They also decided to object to the draft order to form the Lakes and Lune Water Board—which covers Kendal, South Westmorland, Lakes Urban, Windermere, Sedburgh, and part of Lunesdale—because of the inclusion of Patterdale which is in the Lakes urban area.

A spokesman of the seven authorities said Patterdale is in their water shed on their side of the mountains and they felt it could be better administered by them.

R.I.C.S. GOLD MEDAL ADDRESS

This year's Gold Medal of the Royal Institution of Chartered Surveyors will be presented to Professor Philip H. White, M.Sc. (Est.Man.) (Lond.), at the Chartered Surveyors Annual Conference at Leicester next month (July 4-8). The title of his address to the conference will be "Urban Redevelopment Policies." An award of 100 guineas goes with the medal.

Professor White holds the Chair of Estate Management at the University of British Columbia, Vancouver, Canada. He is the only university professor in the British Commonwealth who holds such a Chair. Previously he was Head of the Valuation Department of the College of Estate Management in London, and a member of the Board of Governors of that college.

THERMAL INSULATION CONTRACTORS ASSOCIATION

At the recent annual general meeting of the Thermal Insulation Contractors Association Mr. W. S. Isherwood of Dick's Asbestos and Insulating Co., Ltd., was elected chairman and Mr. A. G. Grant of Cape Insulating and Asbestos Products, Ltd., deputy chairman.

Prior to the meeting, a luncheon was held which was attended by some 70 members and guests who were welcomed by Mr. G. H. Kenyon, immediate past chairman.

L.C.C. DIRECT LABOUR PROGRAMME

A programme providing for a start to be made on a further 721 dwellings by their direct labour department during 1961, has been authorised by the L.C.C. The dwellings will be built at the following estates: Brandon, Southwark, 63; Brownfield, Poplar, 87; John Pound Mission, Stepney, 26; Melfield Gardens, Lewisham, 32; Mottingham, Lewisham, 70; St. Crispin's, Bermondsey, 4; St. George's Road, Southwark, 127; St. Martin's, Lambeth, 312.

B.I.M. CONFERENCE ON COST OF LABOUR TURNOVER

The cost of labour turnover will be the subject of a one-day conference of the British Institute of Management to be held in London on July 4.

Speakers will include Dr. A. F. Badger, industrial relations officer of the Gas Council, Mr. F. M. Baker, chief accountant of the Marley Group, and Mr. R. K. Bremner, internal consultant, Richard Costain, Ltd.



Main entrance to the office block

MITCHELL'S £1.2M. POWER STATION CONTRACT

The Mitchell Construction Co., Ltd., Peterborough, have been awarded a contract by the Midlands Project Group of the C.E.G.B. for the construction of the super-structure for the principal buildings of Drakelow "C" Power Station at Burton-on-Trent.

The contract, which is valued in the region of £1,200,000, covers the complete cladding of the turbine and boiler houses and their annexes, the demineralisation plant house and the control block. It also covers the construction of the precipitator switch houses, turbo-alternator blocks and the transformer compounds above ground level, the surfacing of all access roads and a number of ancillary works.

Consulting Engineers to the C.E.G.B. are L. G. Mouchel and Partners.

R.I.B.A. PRESENTATION TO I.U.A.

The R.I.B.A. is to entertain the Assembly of the I.U.A. to a dinner, to be held at 66 Portland Place on Friday, June 30. At the dinner the President, on behalf of the R.I.B.A., will present to the President of the I.U.A., Senor Hector Mardones Restat (Chile), a gavel and block as a memento of the VIth Congress of the I.U.A.

QUICKER INFORMATION ON STOCK CHANGES

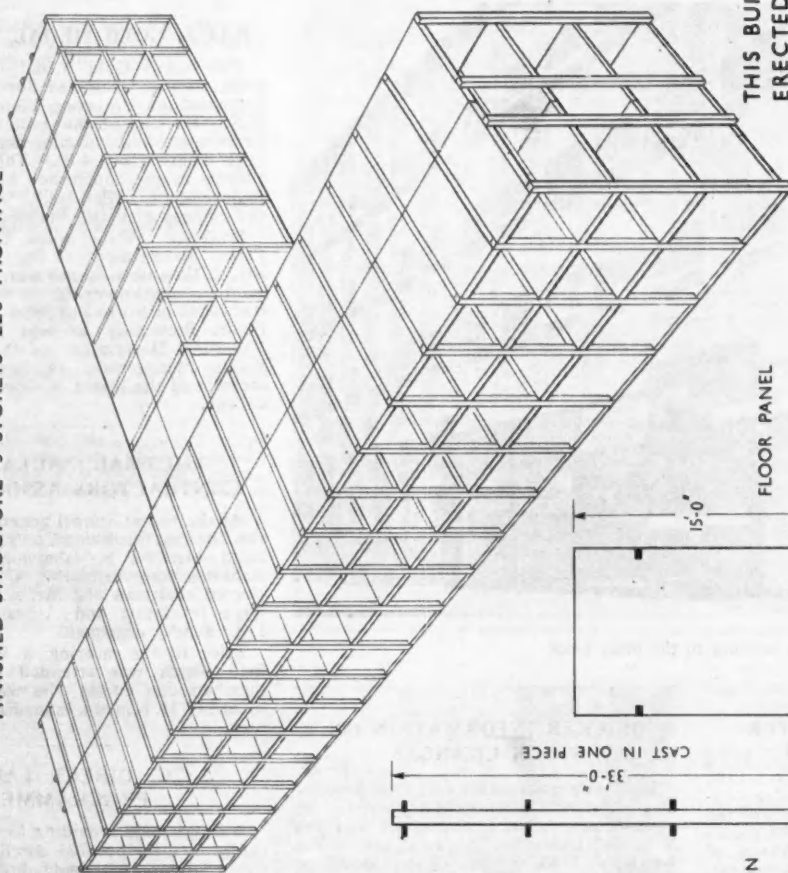
Following discussions with the Association of British Chambers of Commerce, the Federation of British Industries and the National Union of Manufacturers, the Board of Trade is making an appeal to industrial firms to do what they can to send the statistics they provide to the Government, and particularly statistics of stocks, as quickly as possible.

Under Constant Review

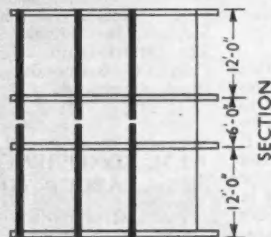
One of the main purposes of collecting and publishing current economic statistics is to allow the course of the economy to be kept under constant review by government, industry and commentators. If Government action is to be timely and well-informed, if business is to get the maximum value from the cost it incurs in providing statistics, and if comments are to be pertinent, statistics must appear promptly. Both the Government and industry, therefore, attach much importance to prompt returns and timely information.

Sir Richard Powell, Permanent Secretary to the Board, has written personally to the chairman of some 800 companies contributing to the Boards inquiries into manufacturers' stocks.

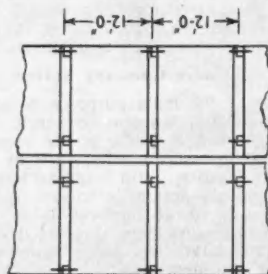
FINISHED STRUCTURE—3 STOREYS—228' FRONTAGE



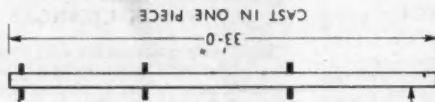
THIS BUILDING
ERECTED BY
6 MEN IN
48 DAYS



SECTION



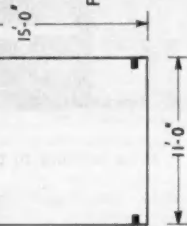
PLAN



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PRECAST COLUMN
9' x 9"

FLOOR PANEL



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(Continued from page 1624)

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18ft. Straight and 20/40ft. Telescopic l.jbs.
15cwt. Jones KL15 Self-propelled Diesel Cranes
15/20ft. Straight Channel l.jbs.
2-ton Neals Diesel Mobile Cranes on pneumatics
20/30ft. Straight Lattice l.jbs.
3-ton Neals NMS Diesel Mobile Cranes on pneu-
matics, 30/35ft. Straight Lattice l.jbs.
3-ton Jones Diesel Crawler-mounted Cranes, 30/40ft.
Straight Lattice l.jbs.
4-ton Jones KL44 Diesel Crawler Cranes, 30/45ft.
Straight Lattice l.jbs.
4-ton Jones KL44 Diesel Mobile Cranes on pneu-
matics, 30/45ft. Straight Lattice l.jbs.
Smith 21 approx. 10-ton capacity Crawler-mounted
Cranes, 70ft. Box Lattice, with 10ft. Fly l.jbs.
also available.
5-ton Coles Mk. VII Diesel Lorry-mounted Cranes
various length l.jbs.
10-ton Coles Diesel Lorry-mounted Cranes, various
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Maximam, Wall-Ace and Goodwin. Petrol.
Diesel or Electric driven.
7.5 Stothert and Pitt, Winget, Benford and Parker,
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10/7 Stothert and Pitt, Winget, Parker and Rex,
Tilting and Closed Drum types.
14/10 Ransomes and Rapier, Rex, and Stothert and
Pitt, some with Weighers' and Draglines.
18/12 Rex.
21/14 Stothert and Pitt.
New 4.3 and 5.3 1/2 Barford MIXERS from stock.
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LIMA 1201 EXCAVATOR, fitted with Dragline
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New Lister Diesel LOCOMOTIVES from £455.
One Montania Diesel LOCO., 2 1/2-ton, 24in. gauge.
Twenty 1yd. TIPPING WAGONS.
2yd. 24in. gauge TIPPING WAGONS.
Maco Pressed Steel Lay-on SWITCHES.
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POINTS and CROSSINGS and TURNABLES.
WHEELS and AXLES, all gauges.
Maco AXLEBOXES.
PLATELAYERS' BOGIES, 4ft. 8 1/2in. gauge.
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SPARES for TD18 Bulldozers.
Two TD18 SCRAPER WINCHES.
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3-ton Aveling-Barford ROLLER, 1950, Petrol Engine.
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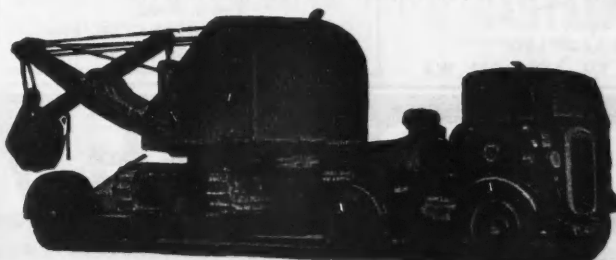
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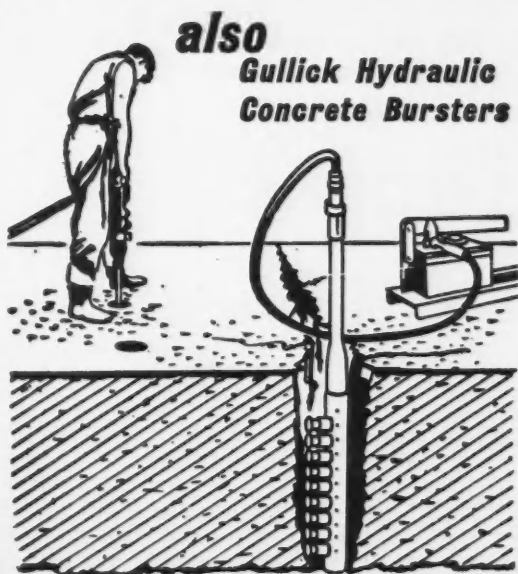
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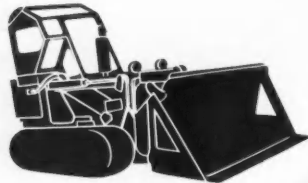
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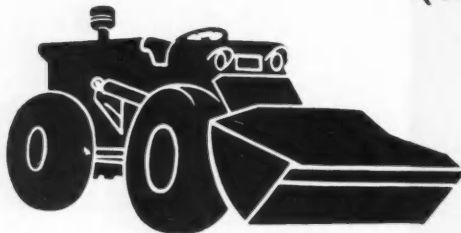
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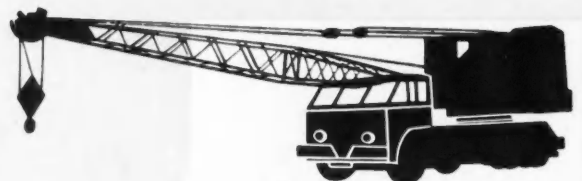
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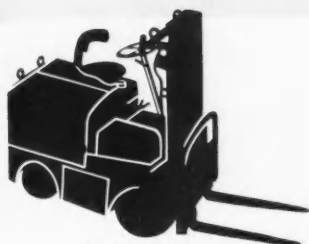
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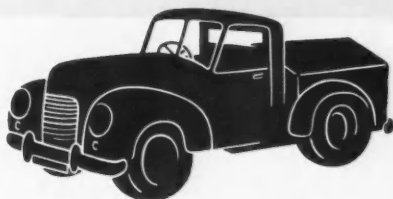
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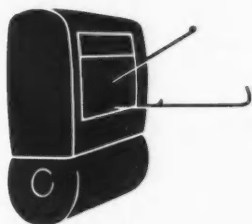
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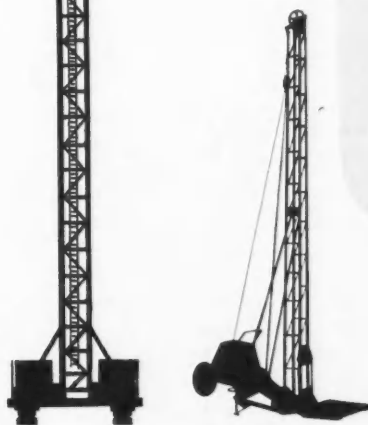
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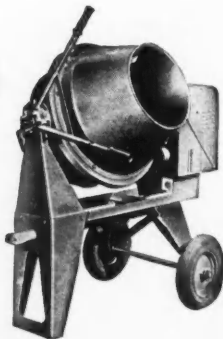
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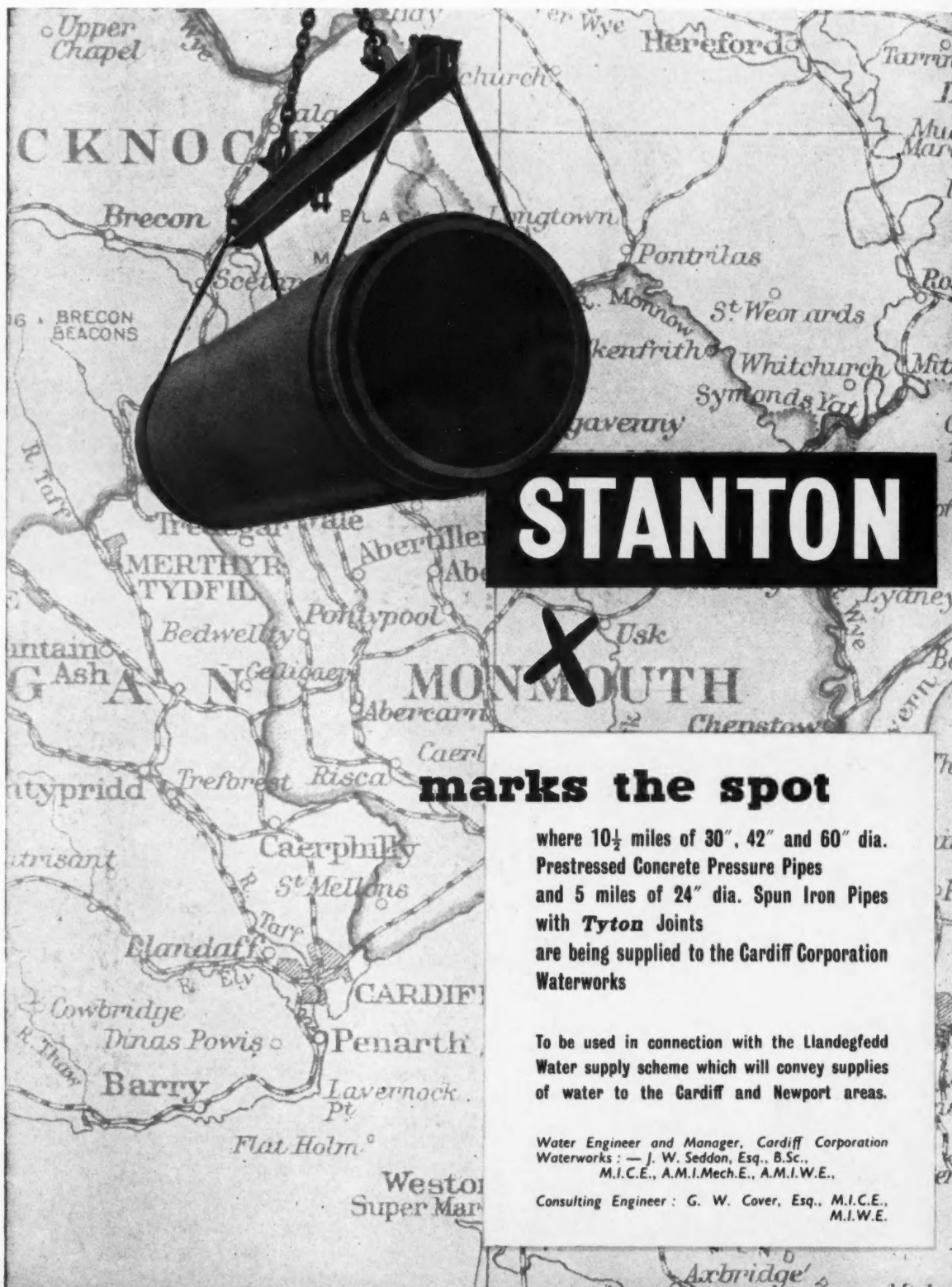
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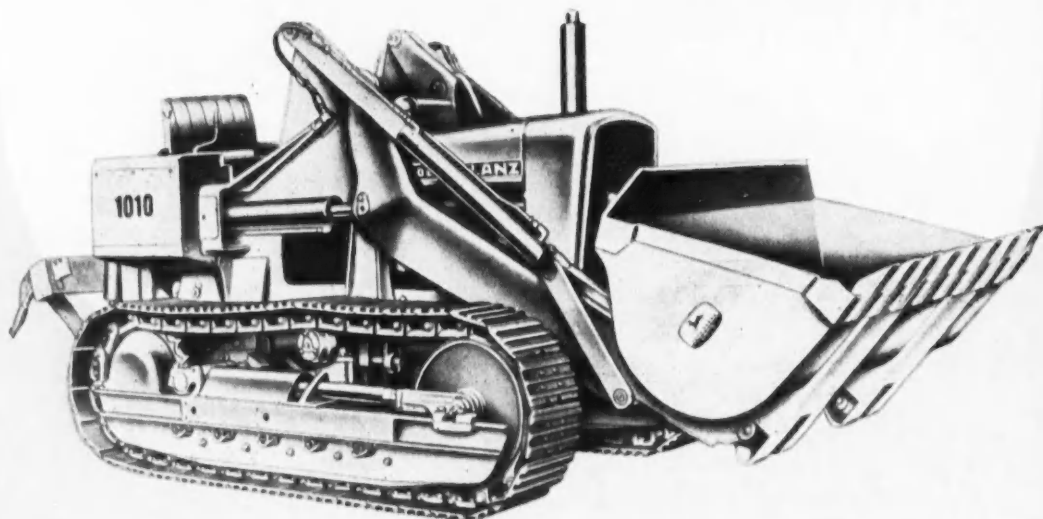
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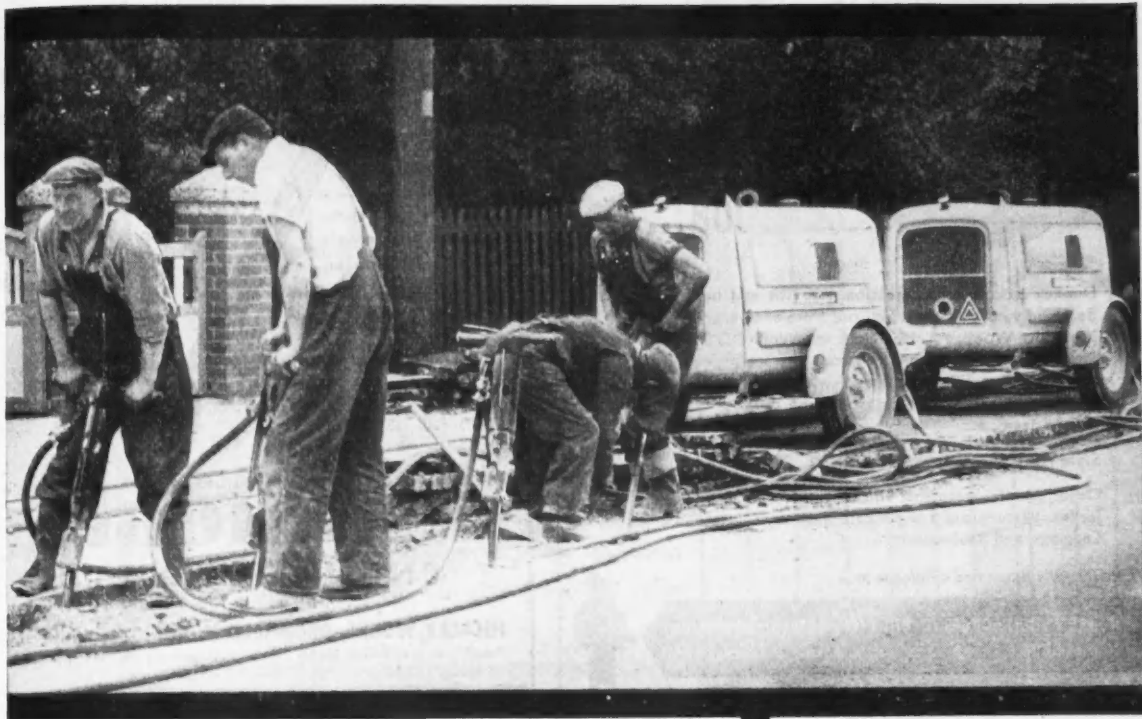
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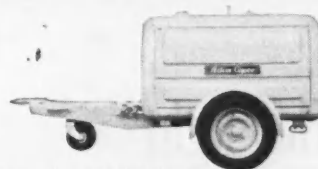
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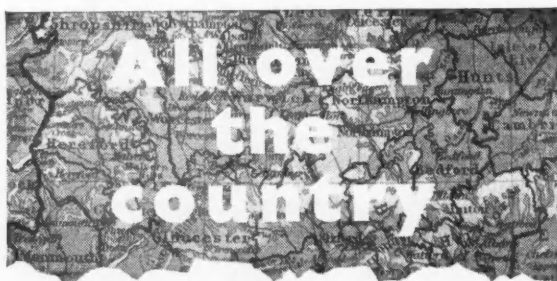
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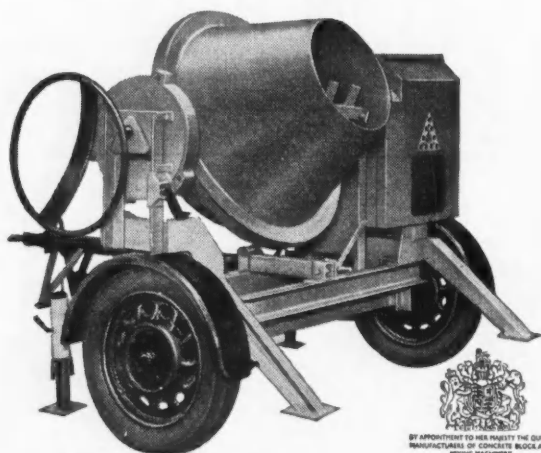
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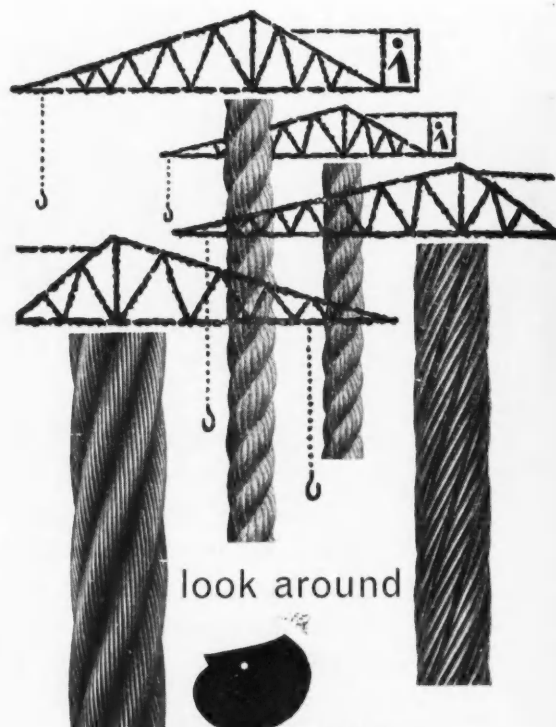
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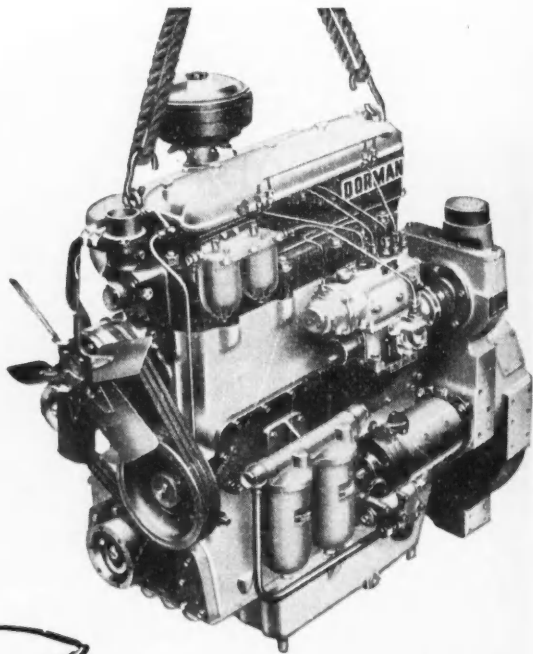
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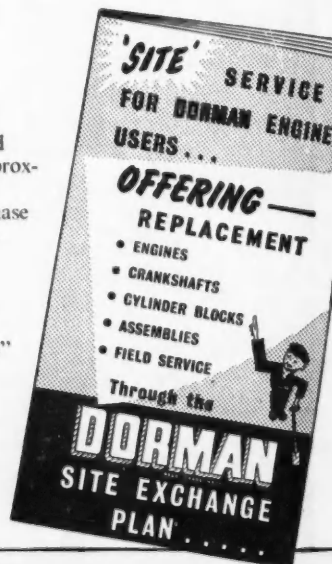
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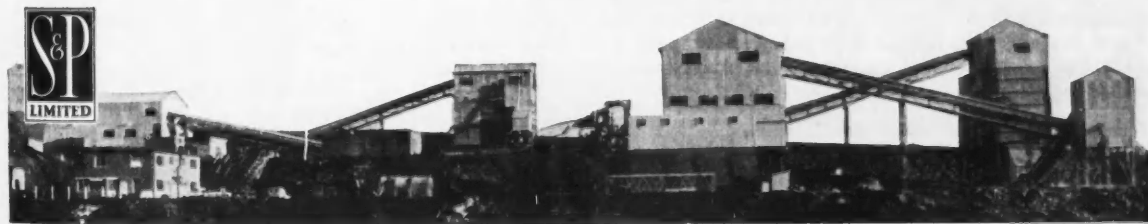
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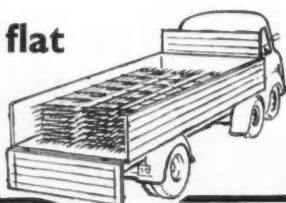
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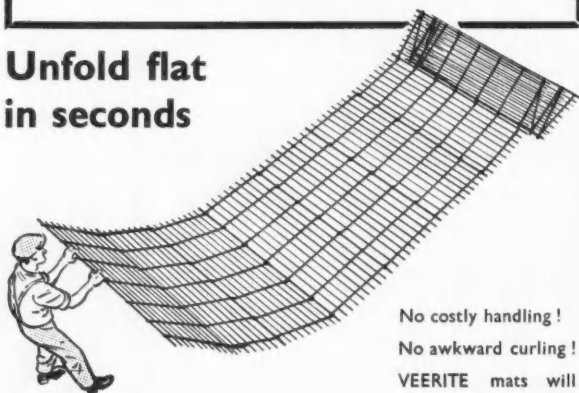
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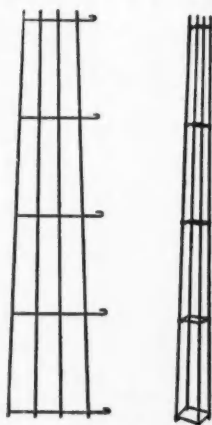
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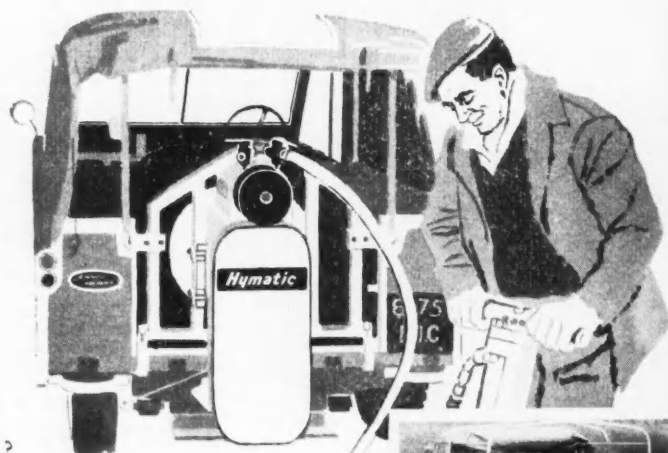
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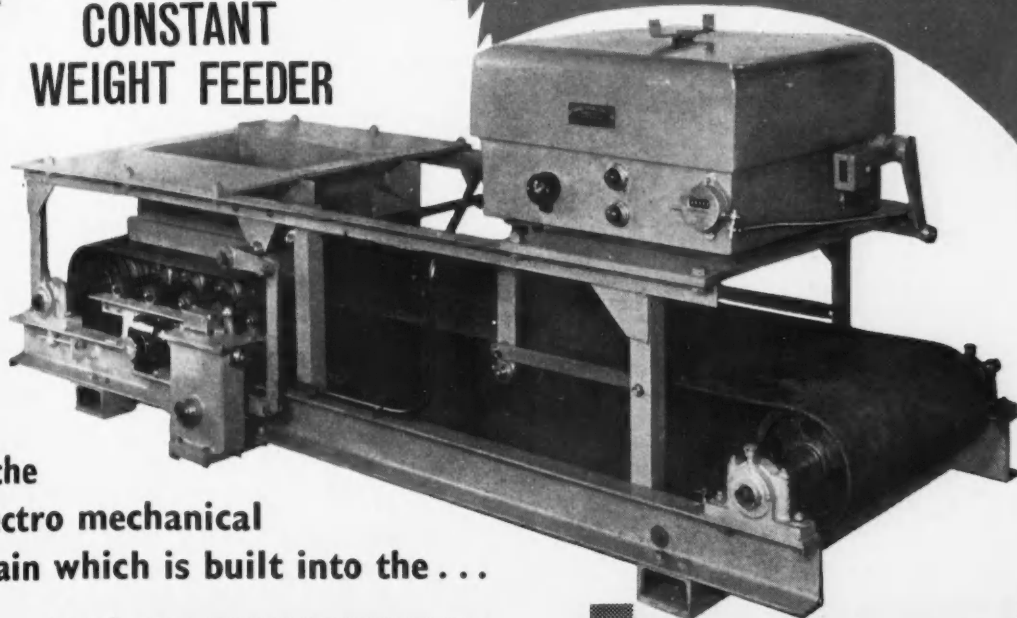
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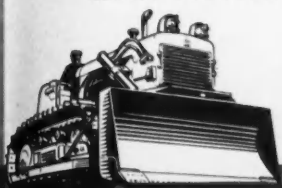


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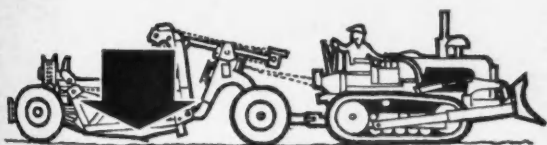
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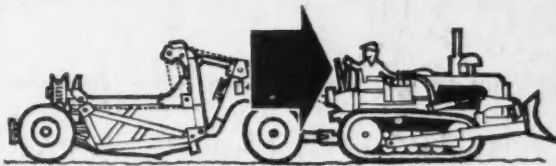
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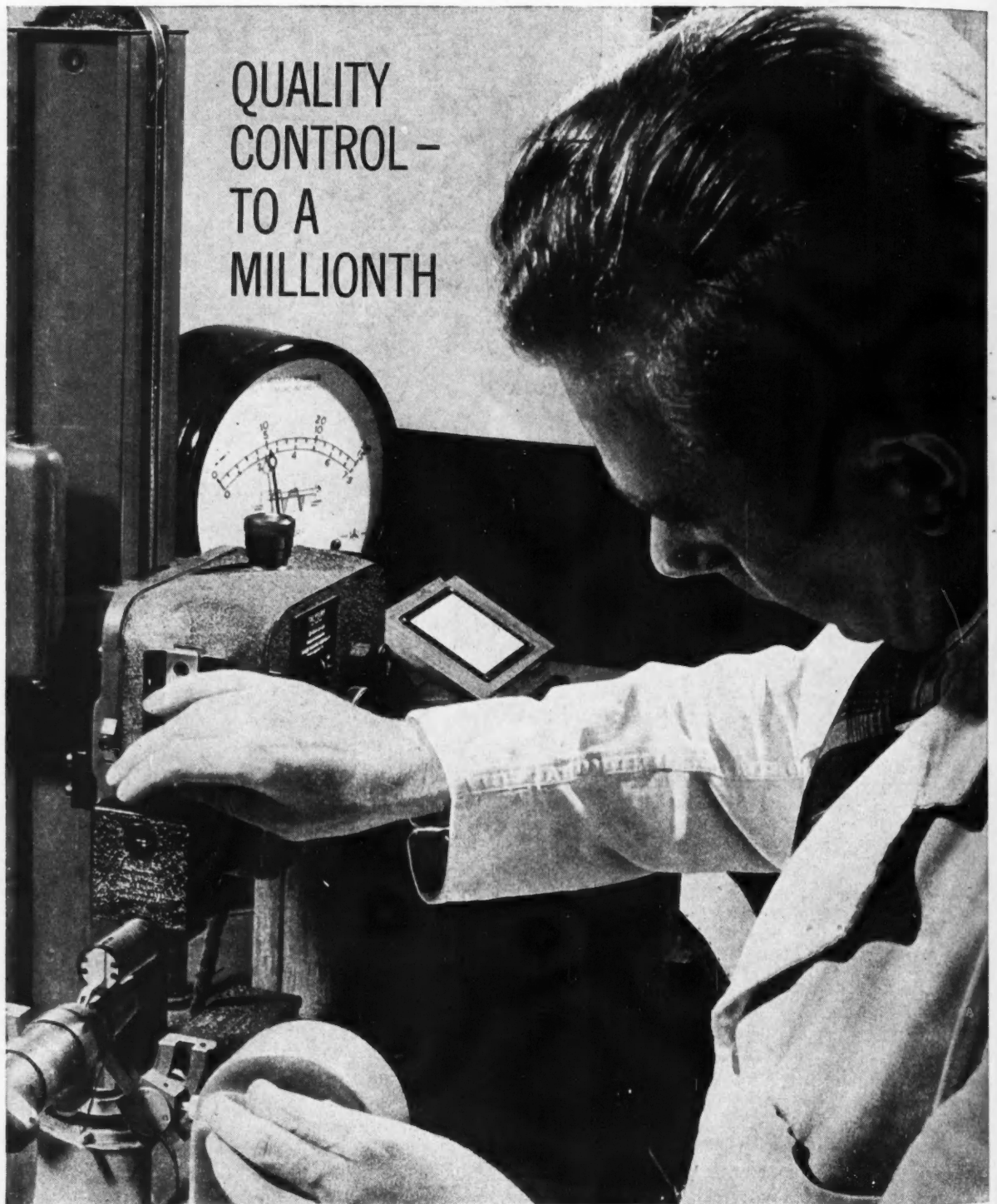
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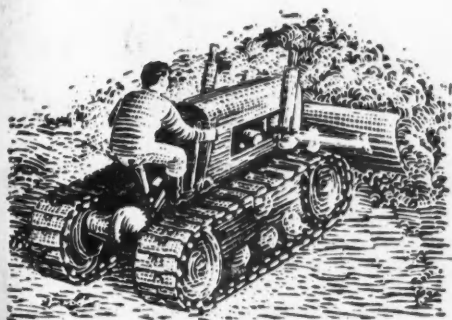
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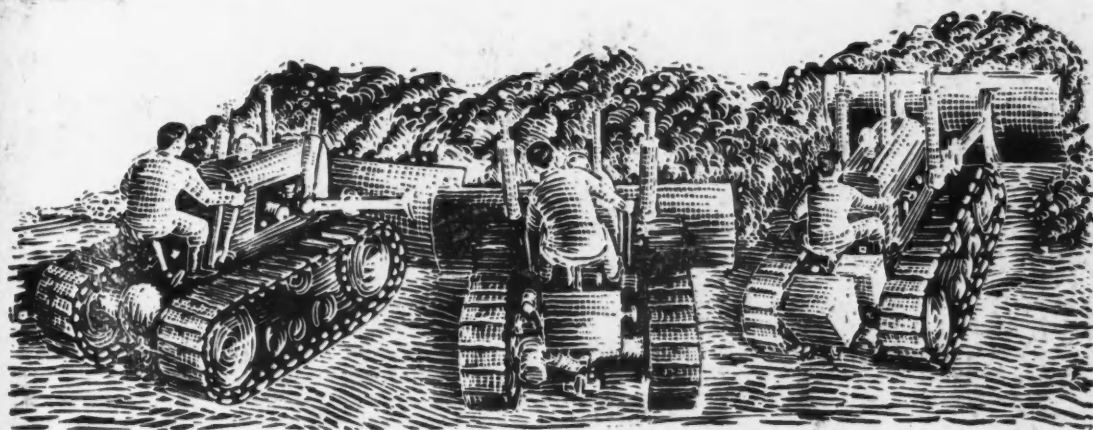


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PENTEWAN DOCK AND CONCRETE CO., LTD., Pentewan Works, near St. Austell. (Tel.: Mevagissey 3335/6.) Gwiltian Works, near Havle. Pure silica gravel and grit, concreting building, plastering and bedding sands, elvan and granite aggregates, all sizes.

CUMBERLAND

BROOMBYS, LTD., Sandisle, Milnthorpe (Tel.: 3251/2). Westmorland. (See Westmorland.)

ESK MANUFACTURING CO., LTD., Calsil Brickworks, Brisco, Carlisle. (Tel.: Carlisle 2-49A.) Sand lime bricks (common and coloured facing). Ex-Brisco. Concreting aggregates ex Longtown Works (Tel.: 3651.)

DENBIGHSHIRE

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel.: 961.) Salop.

DERBYSHIRE

BALLIDON QUARRIES, LTD., Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes: coated limestone to 3.5, 802 and 1621 and wet-mix: large output; reliable series.

HILTON GRAVEL, LTD., Hilton, Darby. (Tel.: Etwell 422.) Also at Mercaston. (Tel.: Brailsford 316.) And at Willington. (Tel.: Repton 3215.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Loughdam 3171—15 lines.) (For details, see Nottinghamshire.)

HULLAND GRAVEL CO., LTD., Cheadle, Stoke-on-Trent. (Tel.: Cheadle 2323/4, 219 and 2195.) Manchester Office: 464 Wilbraham Road, Chorlton, Manchester, 21. (Tel.: Chorlton 2274/5.)

KEYN LIME CO., LTD., Oakmoor, Staffs. (Tel.: Oakmoor 385-386.) Clean graded dry limestone, all to B.S.S. sizes. Output 1,000 tons per day.

SALISBURY AND WOOD, LTD., Matlock (Tel.: 272/2/3.) Limestone and granite, dry or coated gravel and sand, bricks, slabs, blocks, posts, reconstructed and natural stone: lime and ground limestone light-weight aggregates, ashes and white.

WARDLOW LIMESTONE, LTD., Caudon Low, N. Staffs. (Tel.: Oakmoor 366.) (For details, see Staffs.)

DORSET

BULL BROS., S. and L., LTD., 126A High Street, Winchester. (Tel.: 2264.) (See Hampshire.)

DANGERFIELD, F. J., & CO., LTD., 261A Finchley Rd., London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

DORSET LIMESTONES, LTD., Bumpers Lane, Easton, Portland, Dorset. (Tel.: Portland 2207/8.) Tarred and bituminous macadam, foundation materials, limestone for all purposes and to all gradings. Portland stone aggregates and Portland capstone aggregates for reconstructed stone. By road and sea.

HALL AND CO., LTD., 3 Commercial Road, Parkstone. (Tel.: 5379.)

MORLEY (VERWOOD), LTD., Verwood, Wimbome, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggins, path gravel.

ESSEX

ALRESFORD SAND AND BALLAST CO., LTD., Alresford Creek, near Colchester, Essex. (Tel.: Wivenhoe 341/4/94.) Pits at: Alresford Creek, Brightlingsea, Stoke-by-Nayland, Bures and Holland. All grades of washed shingle, concreting sand and building sand. Road and water transport.

BAKER, F. AND E., LTD., 73 High Road, Rayleigh, Essex. (Tel.: Rayleigh 1031/2.) Pits at: Great Totham, ryebridge and West Tilbury. All grades of washed material supplied and delivered; also hardcore ashes and bricks.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

BUCBRICKS COMPANY, LTD., Sand and Ballast Pits, Martlets, Ardleigh, Colchester. (Tel.: A. Leigh 310.) All grades of washed aggregates, sand, building sand, asphalt, grit. Sterilised dry sand, accurately graded to buyers' requirements.

DANGERFIELD, F. J., & CO., LTD., 261A Finchley Rd., London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

FERRIS, PITS, LTD., The Limes Garage, Fencible Road, Barkingside, Essex. (Tel.: Mainwaring 2271/2-3001/2.) Pits at: Orsett, near Stanford-le-Hope, and Upminster. All grades of washed aggregates, plastering and building sands, washed and delivered, also hardcore.

HALL AND CO., LTD., Manor Road, Romford. (Tel.: Romford 42321.) Pits at: Upminster, Boreham and Linford, near Graves. Gravel aggregates, concreting, plastering and building sand.

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Loughdam 3171—15 lines.) (For details, see Nottinghamshire.)

HUNNABLE, F. A., AND SON, LTD., Rave Road, Braintree, Essex. (Tel.: Braintree 151 and 1151.) Grader washed stone, in 100 tons to select: washed concrete sand and washed soft building sand. Classified sand for asphalt. Ready mixed concrete to all grades. Pits at: Braintree, Essex. Boxings, Bessley End, Hedingham and Alphamstone.

KENRICK, W., LTD., 92 Waterloo Road, Romford, Essex. (Tel.: 42481/2.) Supply and deliver all grades of sands, ballast and shingle, asphalt grits, granite aggregate. Rubbish clearance. Tip available at Upminster.

LEIGH BUILDING SUPPLY CO., LTD., Head Office: 956 London Road, Leigh-on-Sea, Essex. (Tel.: 78264—5 lines.) All grades washed materials. Limestone sand, hardcore, ashes, bricks, granite.

PETERS AND BARMAN, LTD., 309 South Street, Romford. (Tel.: Romford 44141—7 lines.) Washed and crushed gravel, all sizes. Sand and gravel pits at: Asheldham, Chigwell, St. James, Dagenham, Great Waltham, North Ockendon, Rowwell, West Thurrock.

PINCH, A. AND A., LTD., Upper Rainham Road, Elm Park, Hornchurch, Essex. (Tel.: Hornchurch 48912/3/4.) Haulage all aggregates and excavating.

READ, P. T., LTD., Fairlop Airfield, Forest Road, Ilford. (Tel.: Mainault 6111/2/3.) High-grade sands, ballast and shingles supplied and delivered: ready-mixed concrete.

ST. ALBANS SAND AND GRAVEL CO., LTD., London Colney, St. Albans, Herts. (Tel.: Bowmans-green 2271.) Pits at: Meadgate Road, Nazeing; Station Road, Waltham Abbey.

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4 and 2442/3/4.) Pits at: St. Ives and Gosfield, near Halesden.

STANWAY CONTRACTS LTD., Upper Edwards Hall, Eastwood Southend-on-Sea. (Tel.: Eastwood 55161.) Sand and gravel pits at: Rochford and Woodham. Graded aggregate supplied or delivered.

WIVENHOE SAND, STONE AND GRAVEL CO., LTD., Wivenhoe, near Colchester, Essex. (Tel.: Wivenhoe 231.) High quality washed aggregates of all grades.

GLOUCESTERSHIRE

BENGRI AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

COKE T. F., (CHELTENHAM), LTD., 267 Gloucester Road, Cheltenham. (Tel.: Cheltenham 471/4/74.) Sand, graded gravel aggregates, hardcore, limestone, chippings, tarred and bituminous limestone, concrete blocks, fence posts, etc.

CROMHALL QUARRIES, LTD., Cromhall, Wotton-under-Edge, Glos. (Tel.: Fairfield 346/7.) Concrete aggregates, pre-graded in large quantities. Tarmacadam, tar-paving, bituminous macadam and cold asphalt to B.S. for hand or machine laying.

GRIFFITHS, A., AND SONS, Churchdown, Gloucester. (Tel.: Churchdown 3135 and 2216.) Pit, quarry and dredger owners. All grades and trim aggregate materials.

HALL AND CO., LTD., Longmoor House, Ashton Vale Road, Bristol. (Tel.: 63061.) Gravel aggregates, concreting, plastering and building sand.

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Loughdam 3171—15 lines.) (For details, see Nottinghamshire.)

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing. Engineering and Common Bricks, terracotta, red and golden brown. Concrete aggregates, roadstones, and Dolomite marbles.

TAYMAG, LTD., Wootton Bassett, near Swindon, Wilts. (Tel.: Wootton Bassett 391—5 lines.) Cotswold stone, hardcore, washed and graded aggregates, building sand.

WHITCLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel.: Coleford 3158/9.) Tarred and bituminous limestone macadam, asphalt, concrete aggregates, dolomite media, engineering, facing and common bricks for all purposes. Delivery road or rail.

CONTRACTORS' GUIDE TO AGGREGATES

HAMPSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

BULL BROS., S. AND L., LTD., 126A High Street, Winchester. (Tel.: 2264.) Concrete aggregates (reconstituted, pit-mixed, or wheelblasted to meet any specification); also ballast, hoggin, path gravel and sand from own pits at Fawley, Lockerley, Ringwood, Romsey, Sway and Totton.

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

HALL AND CO., LTD., Baltic Wharf, Marine Parade, Southampton (Tel.: Southampton 21234), and at Portsmouth. Pits at Ringwood, Highbridge and Fawley. Gravel aggregate, concreting, plastering and building sand.

HASKINS, G. AND SONS, Queen Street, Emsworth. For washed sand and graded aggregates, path and road gravels, hoggin, clinker, ashes. (Tel.: Emsworth 2271.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

MOREYS (VERWOOD), LTD., Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggin, path gravel.

NEW MILTON SAND AND BALLAST CO., LTD., Lynton Road, New Milton, Hants. (Tel.: 37 and 566.) Guaranteed uncrushed, washed, screened and graded concrete aggregates. All sizes. Washed sharp and fine sand.

PRIVETT, W. G. AND SONS, LTD., Drayton Lane, Portsmouth. (Tel.: Cosham 70055.) Concrete aggregates, building sand, hoggin, ashes, washed and graded filter media, etc.

ALPH OF BASINGSTOKE, LTD., 37 Kempshott Lane, Basingstoke, Hants. (Tel.: 85.) Concrete aggregates, building sand, path gravel, hoggin, etc.

TWICKENHAM GRAVEL CO., LTD., Ship Lane, Farnborough (Tel.: 1126); Sandhurst Road, Yateley (Tel.: 2230).

HEREFORDSHIRE

BENRGY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) Suppliers of crushed concrete aggregates, road metal, pitching stone, hardcore and coated macadam.

LEE HILL TRANSPORT AND ROLLING CO., LTD., Ludlow, Salop. (Cleechillstone 284.) (See Shrops.)

OVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

NASH ROCKS, LTD., Radnor. (Tel.: Presteigne 352.) All grades of tarred and bituminous macadam, roadstones, chippings and concrete aggregates, etc.

OLD RADNOR TRADING CO., LTD., Kingston (Tel.: 421.) Granite and limestone aggregates, coated macadam, concrete products.

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel.: 961), Salop.

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3155.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. Concrete aggregates, roadstones, and Dolomitic media.

WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel.: 3158/9.) (See Gloucestershire.)

HERTFORDSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

EASTWOODS SALES, LTD., Eastwood House, City Road, E.C.1. (Tel.: Clerkenwell 2040.) Broxbourne pit. (Tel.: Hoddeston 3155.) Producers and distributors of all grades of washed aggregates.

GABRIEL, C., LTD., Palmers Lane, Enfield, Middx. (Tel.: HOWard 4351/2/3.) Washed aggregates and building sand. Pits at Hertford and Enfield.

HALL AND CO., LTD., Railway Yard, Orchard Road, Stevenage (Tel.: 775), and at Hatfield. Gravel aggregates, concreting, plastering and building sand.

HARTIGAN, G. F. X., LTD. (See Buckinghamshire.)

ST. ALBANS SAND AND GRAVEL CO., LTD., London Colney, St. Albans, Herts. (Tel.: Bowmans-green 2271.) Pits at Smallford Lane, Smallford, and Bramfield Lane, Watford, Marsh Road, Stansfeld Abbotts.

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)

TWICKENHAM GRAVEL CO., LTD., Eleanor Cross Road, Waltham Cross. (Tel.: 23388.)

WEBB, G., CAMBRIDGE, 35 Magrath Ave., Cambridge. (Tel.: 59966, 53969, 50353 (night).) (See Cambs.)

WINFIELD HENRY, LTD., Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamstead 1208/9.) Pits at Hemel Hempstead, Watford, West Hyde, Rickmansworth. Concrete aggregates, hoggin, building sand.

HUNTINGDONSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

FERRERS AND AGGREGATES, LTD., Northampton Road Quarries, Rushden (2354/5.) (See Northants.)

GRAVEL PRODUCTS (HUNTS), LTD., Little Paxton, St. Neots, Hunts. (Tel.: St. Neots 308.) Pits at Little Paxton, St. Neots, Hunts.; and Blunham, Beds.

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

NENE BARGE AND LIGHTER CO., LTD., Market Chambers, Peterborough, near Peterborough (Tel.: Wansford 384/5.) Roadstone, hardcore, broken stone, ballast, ashes, silica clay and sand.

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) Producers of all grades of washed sand and gravel. Ready mixed concrete. Precast concrete of many descriptions.

WEBB, G., CAMBRIDGE, 35 Magrath Ave., Cambridge. (Tel.: 59966, 53969, 50353 (night).) (See Cambs.)

KENT

BRASTED SAND PITS, Brasted, Kent (Tel.: 586). London Office: 10A Ellery Street, S.E.15. (Tel.: New Cross 3337.) Soft and plastering sands, lime and sand-mix dry, hardcore, S.H. bricks, ashes, etc.

BROWN BROS. (SITTINGBOURNE), LTD., Chalkwell Road, Sittingbourne, Kent. (Tel.: Sittingbourne 330.) Sand, ballast, shingle, hoggin, hardcore, clinker, etc.

CLUBBS, J., LTD., Dartford, Kent. (Tel.: Dartford 25431.) Pits in North Kent, Medway area and Sevenoaks district. All washed and crushed gravel aggregates, concrete and building sand, concrete, etc.

DIAMOND TREAD CO. (1938), LTD., Ditton Court Quarry, Larkfield, near Maidstone. (Tel.: West 3444.) Quarries, owners, tarmacadam, bituminous macadam and dry road stone manufacturers and suppliers. Head Office: 21-22 Old Bailey, London, E.C.4. (Tel.: City 7001—10 lines.)

DIAMOND TREAD CO. (CHART), LTD., Swan Lane Quarries, Little Chart, Ashford, Kent. Quarry owners; tarmacadam, bituminous macadam and dry roadstone suppliers. All inquiries to Area Office: Ditton Court Quarry, Larkfield, near Maidstone, Kent. (Tel.: W. Malling 3444.)

HALL AND CO., LTD., Canning Street, Maidstone. (Tel.: Maidstone 51051.) and at Folkestone and Hayes. Pits at Lunsford, near Larkfield, Riverhead. Gravel aggregates, concreting, plastering and building sand, concrete, precision-mixed concrete.

HARRIS, M. P. AND CO., LTD., Station Road, Paddock Wood, Kent (Tel.: 385.) (See Sussex.)

TILBURY CONTRACTING AND DREDGING CO., LTD., Postley, Maidstone. (Tel.: Maidstone 55411/2/3.) Suppliers of tarred, bituminous and dry Kentish ragstone, sea walling, asphalt fillers, Scotch granite and kerbing.

LANCASHIRE

BROOMBYS, LTD., Sandside, Milnthorpe (Tel.: 3251/2.) Westmorland. (See Westmorland.)

BUCKTON QUARRY, Broken stone all grades. (Tel.: Mossley 123.) Or write Main Road, Oldham.

CASTLETON SAND AND GRAVEL QUARRIES, LTD., Trows Lane, Castleton, near Rochdale. (Tel.: Castleton 57100.) Le Quares, Bacup. (Tel.: Bacup 287.) Washed pit sand, crushed washed stone aggregates; pitching stone.

CROEDEN GRAVEL, LTD., Cheadle, Stoke-on-Trent. (Tel.: 393.) Suppliers of tarred, bituminous and Blackfriars 3766/7. Plant capacity, 2,000 tons per day.

DUNNING AND SON, LTD. (See Shropshire.)

HARTLEY, JOHN W., LTD., Lundsheld Quarry, Carnforth, Lancs. (Tel.: Carnforth 100.) Large producers of highest quality washed sands, clean washed natural pebbles and washed gravel aggregates for all construction purposes.

HILTON GRAVEL, LTD., Rice Street, Liverpool Road, Manchester, 3. (Tel.: Deansgate 5455 and 5456.) Quarries at Cheadle, Staffs. (Tel.: Team 241.) And at Longton, Stoke-on-Trent. (Tel.: Longton 32196.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

HULLLAND GRAVEL CO., LTD., Cheadle, Stoke-on-Trent. (Tel.: Cheadle 2323/4, 2119 and 2195.) Manchester Office: 14 Howard Road, Chorlton, Manchester, 21. (Tel.: Chorlton 274/5.)

KELMAC, LTD., 54 Deesdale Road, Preston, Lancashire. (Tel.: Preston 84688/9.) Bituminous, tarred and waterbound materials. Dry roadstone, sized and graded limestone aggregates. All to B.S. and M. of T. Specifications.

PENMAENMAWR AND WELSH GRANITE CO., LTD., all sizes and gradings of crushed granite aggregate. Immediate delivery ex stock. Liverpool and Preston Depots: Office: 7 Picton Road, Liverpool, 15. (Tel.: Setton 7261.) Manchester Depot: Office: Cornbrook Road, Manchester, 15. (Tel.: Trafford Park 3830.)

TERN HILL SAND AND GRAVEL CO., LTD., Alimington Quarries, near Market Drayton, Staffs. (Tel.: Hales 212/3.) (See Staffs. for details.)

TRENTHAM GRAVEL CO., LTD., Lordleys Quarries, Willoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 3041/5.) All sizes crushed or washed gravel. Plant capacity twice washed sharp sand. Plant capacity: 2,000 tons per day.

WITHERS LIMESTONE, LTD., Black Lane Quarry, Carnforth. (Tel.: Carnforth 100.) Graded limestone aggregate to B.S.S., all sizes. Immediate delivery ex stock.

X.L. GRANITE (INGLETON) LTD., Head Offices: Clapham, via Lancaster. (Tel.: Clapham 31819.) Works Tel.: Ingleton 231. All sizes and gradings of Ingleton granite aggregate.

LEICESTERSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) East Leicester-shire shingle grey granite, dry and coated gradings to any specification, cold asphalt and wet mix. Prompt railroad delivery.

CLIFFE HILL GRANITE CO., LTD., Markfield, near Leicester. (Tel.: Markfield 5612/3.) Granite aggregates to B.S.S. All sizes. Tarred and bituminous granite, concrete slabs and kerbs. In. washed granolithic aggregate.

DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) (See Northamptonshire.)

ENDERBY AND STONEY STANTON GRANITE CO., LTD., 21 New Walk, Leicester. (Tel.: 20891.) Quarries at Underby, London Offices: 29 Dorset Square, N.W.1. (Tel.: Amb. 1141.)

HILTON GRAVEL, LTD., Hamington Fields, near Shawlow, Derby. (Tel.: Shawlow 266.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

MOUNTSERRAT GRANITE CO., LTD., 21 New Walk, Leicester. (Tel.: 20891.) Quarries at Mountserratt, near Loughborough. In. pink granite a speciality. London Office: 29 Dorset Sq., N.W.1. (Amb. 1141.)

WANLIP GRAVELS, LTD., Wanlip Road, Syston, Leicester. Any size or grading, scientifically balanced ballast. All to B.S.S. (Tel.: Syston 233.)

WREAKE VALLEY GRAVELS CO., LTD., Melton Mowbray. (Tel.: Pitt—Rotherby 205 or head office Melton 2488.) All grades washed aggregates and sand, transit mixed concrete.

LINCOLNSHIRE

CONINGSBY SUPPLY CO., LTD., Registered Office: The Broadway, Woodhall Spa, Lincs. (Tel.: Woodhall Spa 2322.) Screened limestone, hardcore, pitching, filling, flint, hoggin, ex quarries or delivered.

DOW-MAC (PRODUCTS), LTD., Tallington, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 2301.)

EAST MIDLANDS BUILDERS' SUPPLY CO., 21 Castle-dyke West, Barton-on-Humber, Lincs. (Tel.: Barton 2189.) All grades washed sand and gravel, roadstone, hardcore, washed silica sand.

GIBBONS, F. B. AND SONS, LTD., Registered Office: Welby House, Market Deeping, near Peterborough. (Tel.: Market Deeping 3321/233.) Pits at Land-tolt, near Peterborough. (Tel.: Market Deeping 2210.) All grades washed sand and aggregates.

HARTSHOLME GRAVELS AND SAND CO., LTD., Hartsholme Wood, Doddington, Washed Lincoln. Sole selling agents: Hartsholme Sales, Ltd., 17 West Parade, Lincoln. (Tel.: Lincoln 23391.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

PETERBOROUGH QUARRIES, LTD., Sandylands, Maxey, Peterborough. (Tel.: Market Deeping 2335—3 lines.) Quarry at Rizzley, all sizes and hardcore and broken stone. (See also Northants.)

POLLARD, C. AND SON (TALLINGTON), LTD., Walk House, Langtoft, Peterborough. Pits at Langtoft, near Stamford, Lincs. (Tel.: Market Deeping 1140.) All grades washed sand and aggregates. For "Supercrete" ready mixed concrete, phone Market Deeping 3132.

TRENTFORD GRAVELS, LTD., Head Office: Deansgrove, Grimsby. (Tel.: Grimsby 5354.) Washed and graded gravel and sand, roadstone, hardcore, slag, tarmac, ashes, etc. Pits and quarries throughout the county.

LONDON

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

BUCBRICKS COMPANY, LTD., 57 Piazza Chambers, Covent Garden, London, W.C.2. (Tel.: Covent Garden 0534.) All grades of washed aggregates, sand, building sand, asphalt, grit. Sterilised dry sand accurately graded to buyers' requirements.

COX, H., AND SONS, LTD., 33 Southampton Way, Camberwell, S.E.5. (Tel.: Rodney 2215—3 lines.)

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, N.W.3. (Tel.: HAMstead 8044-8.) Granite limestone or slag, coated or grit, all sizes and pitching, granite kerb and setts, felspar quartz and other minerals by road or rail, or ex London stock.

DORSET LIMESTONES, LTD., Bumpers Lane, Easton, Portland, Dorset. (Tel.: Portland 2207/8.) (For details, see Dorset.)

DRINKWATER, W. W. (WILLESSEN), LTD., Dudden Hill Lane, Willesden, N.W.10. (Tel.: GLADstone 6400/5.) Pits: Denham, Denham Bucks. (Tel.: Denham 2241/2/3.) Also Staines Road, Hounslow Heath, Middlesex. (Tel.: Hounslow 6222/3.)

GABRIEL, C., LTD., Palmers Lane, Enfield, Middx. (Tel.: HOWard 4351/2/3.) Washed aggregates and building sand. Pits at Enfield and Hertford.

GREENHAM SAND AND BALLAST CO., LTD., Chertsey Road, Feltham. (Tel.: Feltham 2285/7.) Pits at Hounslow, Feltham and Staines. Concrete aggregates, plastering and building sand.

HALL AND CO., LTD., Chantry House, Eccleston Street, S.W.1. (Tel.: Sloane 7122), and at East Dulwich, Poplar and Wandsworth. Gravel aggregates, concreting, plastering and building sand.

HARTIGAN, G. F. X., LTD., Washed sharp sand to B.S.S. 882. (See Buckinghamshire.)

KEE, W. J., AND SONS, LTD., Fairlop Road, Epping, Essex. (Tel.: Epping 2520.) All sands, ballast, shingle and hardcore supplied.

LONDON BALLAST CO., LTD. (Tel.: Paddington 5064.) 155A, Porchester Terrace North, Paddington, W.2.

READ, P. T., LTD., Gales Gardens, Bethnal Green, E.2. (Tel.: Shoreditch 9128/9.) All sands, ballast and shingles supplied and delivered; also ready mixed concrete. Pits: Fairlop Airfield, Forest Rd., Ilford, Essex. (Tel.: Hainault 6111/2/3.)

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

MERIONETHSHIRE

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel.: 961), Salop.

MIDDLESEX

CROSS, GEO. C. AND CO., LTD., Uxbridge Road, Southall. (Tel.: Southall 2264/5/6.) Concrete aggregates, hardcore, excavations, demolitions.

DRINKWATER, W. W. (WILLESSEN), LTD., Staines Rd., Hounslow Hth. Middx. (Hounslow 6222/3.)

GABRIEL, C., LTD., Palmers Lane, Enfield, Middx. (Tel.: HOWard 4351/2/3.) Washed aggregates and building sand. Pits at Enfield and Hertford.

GREENHAM SAND AND BALLAST CO., LTD., Chertsey Road, Feltham. (Tel.: Feltham 2285/7.) Pits at Hounslow, Feltham and Staines. Concrete aggregates, plastering and building sand.

GRUNDON, S., 100/104 Harrington Road, Hillingdon, Middlesex. (Tel.: Hillingdon 36511/2/3.) S.S. 882, shingle, hardcore, ashes, excavation and demolition.

HALL AND CO., LTD., Chantry House, Eccleston Street, S.W.1. (Tel.: Sloane 7122), and at Ashford and Brentford. Pits: Bedford and Shepperton. Gravel aggregates, concreting, plastering and building sand.

LONDON BALLAST CO., LTD. (Tel.: Paddington 5064.) 155A Porchester Terrace North, Paddington, W.2.

TWICKENHAM GRAVEL CO., LTD., Feltham Hill Road, Hanworth. (Tel.: Feltham 2638.)

READ, P. T., LTD., Gales Gardens, Bethnal Green, E.2. (Tel.: Shoreditch 9128/9.) All sands, ballast and shingles supplied and delivered; also ready mixed concrete. Pits: Edmondton, Grays Pit, Montagu Road, N.9. (Tel.: Shoreditch 9128/9.) and Fairlop Airfield, Forest Road, Ilford (Tel.: Hainault 6111/2.)

STUART MACAY, LTD., Gordon Rd., High Wycombe. (Tel.: High Wycombe 2891/2.)

CONTRACTORS' GUIDE TO AGGREGATES

MID-WALES

BENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

OLD RADNOR TRADING CO., LTD., Quarries in Radnorshire. (Tel.: Kingston 421.) (See Herefordshire.)

SALOP SAND AND GRAVEL SUPPLY CO., LTD., Admaston, Wellington. (Tel.: 961.) Salop.

TERN HILL SAND AND GRAVEL CO., LTD., Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

MONMOUTHSHIRE

MONMOUTHSHIRE ASSOCIATED QUARRIES, LTD., Head Office: 38 Chestnut Road, Newport, Mon. (Tel.: Newport 55311/2.) Suppliers of all grades of concrete aggregates, road metalling, pitching stone, tarmacadam and bituminous macadam in limestone, dolomite and blue pennant stone. Quarries throughout the county.

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Cinderford, Glos. (Tel.: 3158/9.) (See Gloucestershire.)

MONTGOMERYSHIRE

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

SALOP SAND AND GRAVEL SUPPLY CO., LTD., Admaston, Wellington. (Tel.: 961.) Salop.

NORFOLK

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

JOHNSON, P. C. H., LTD., Station Road, Terrington St. Clement, near King's Lynn. (Tel.: Terrington St. Clement 248.) Washed and screened gravel, roadstone, washed sharp and fine sands.

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 244/2/3/4 and 245.) Washed sand, hardcore, etc. St. Ives and Knettishall, near Thetford.

SNETTERTON STONE QUARRIES, LTD., Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamsted 1208/9.) Pits at Snetterton. Concrete aggregates, building sand, hardcore.

THORPE GRAVEL PITS, LTD., Harvey Lane, Norwich. (Tel.: Norwich 33243/4.) Washed and graded aggregates, stone and gravel delivered to all parts of Norfolk and Suffolk.

NORTHAMPTONSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

BICESTER STONE CO., LTD., Stratton Audley Bicester, Oxon. (Tel.: Stratton Audley 391/2.) Manufacturers and suppliers of all grades limestone, tarmacadam, dry, pitching stone, hardcore, etc.

GRAYBROOK, E. W., LTD., Newton Road, Higham Ferrers, Northants. (Tel.: Rushden 3344 and 3345.) All grades of washed and graded aggregates to B.S.S. building sand, hardcore.

DOW-MAC (PRODUCTS), LTD., Tallington, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 2301.)

DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) Producers of building and walling stone roadstone, hardcore, broken stone, ashes, etc. gravel and hoggins. Immediate delivery throughout Northamptonshire.

FERRERS AND AGGREGATES, LTD., Northampton Road Quarries, Rushden, Northants. (Tel.: Rushden 2354/5.) Largest producers in the county of all grades of high quality concrete aggregate to B.S.S. Deliveries throughout Northamptonshire and adjoining counties.

GIBBONS, F. B. AND SONS, LTD., Welby House, Market Deeping, Peterborough. (Tel.: Market Deeping 3321/2363.) (See Lincolnshire for details.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

KETTON STONE CO. (Prop. Andrew's Garage), Ketton, near Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay. Quarries at Ketton.

MACKANESS, A. J., LTD., Ransome Road, Northampton. (Tel.: Northampton 589.) Producers of all grades of washed aggregates. Building sand, Mixmortar (lime sand mortar). Prompt deliveries.

NINE BARGE AND LIGHTER CO., LTD., Market Chambers, Peterborough. (Tel.: 5534/5.) and Ship and Quarries, Wansford, near Peterborough. (Tel.: Wansford 384/5.) Roadstone, hardcore, broken stone, ballast, ashes, silica clay and sand.

NEWARK (PETERBOROUGH) SAND AND GRAVEL CO., LTD., 127 Eastford Road, Peterborough. (Tel.: Peterborough 291.) All grades washed and screened gravel and sand.

PETERBOROUGH QUARRIES, LTD., Sandylands, Masey, Peterborough. (Tel.: Market Deeping 2355.) Eight quarries supplying all grades of hardcore and broken stone. Also Wetmix at Yarwell, Wansford. All grades gravel and sand at Masey.

POLLARD, C. AND SON (TALLINGTON), LTD., Walk House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)

STORTON, F. E., LTD., Weedon Road, Northampton. (Tel.: Northampton 3358.) Producers of washed gravel and sand to B.S.S.

NORTH WALES

CAWOOD, WHARTON AND CO., LTD., Pistyll Gwyn Quarry, Llanarmon, near Mold. (Tel.: Llanarmon-in-lal 27.) Crushed limestone and tarred macadam, all grades.

NORTH WALES

CHESHIRE AND NORTH WALES TARRIED MACADAM CO., LTD., Llanarmon, near Mold. (Tel.: Llanarmon-in-lal 43.) Hard, broken limestone, dry and coated to B.S.S. Inquiries to Registered Office—Market Chambers, Tower Square, Tunstall, Stoke-on-Trent. (Tel.: Stoke-on-Trent 88094.)

ENSTON BRGS., Llyn Isaf Quarry, Clynogfawr, Caernarvon. (Tel.: Clynogfawr 297/8.) All sizes crushed, washed natural sand and gravel. Highest quality. Precast concrete products, ex our Griffiths Crossing Factory, Caernarvon. (Tel.: Caernarvon 2535/6.) Crushed granite ex our quarry, Pengwern and Gwydyr Quarries, Ltd., Trefriw, Llanrwst, Denbighshire. (Llanrwst 38.)

GWALCHMAI GRANITE QUARRY, Anglesey, Proprietors: The North Wales Construction Co., Ltd. (Tel.: Gwalchmai 292.) All sizes dry and coated granite materials, hardcore, filling, ready mixed concrete, etc.

PENMAENMAWR AND WELSH GRANITE CO., LTD., Quarries at Penmaenmawr. (Tel.: 2256/8.) and at Trevor. (Tel.: Clynogfawr 223.) Caernarvonshire. All sizes and grades of crushed granite aggregate. Any quantity per day; immediate delivery ex stock. Coated granite also available.

RUTHIN AND DENBIGH TARMACADAM CO., LTD. (a member of the Lunt, Conley and Pitt Group), Denbigh. (Tel.: Denbigh 75.) Lime, limestone, carbonate of lime, tarmacadam, etc. Also inquiries to Lunt Bros., Ltd., Gazette Buildings, 160 Corporation Street, Birmingham. (Tel.: Central 7408.) and Lunt Bros., Ltd., Stourbridge. (Tel.: 5201—lines.)

TERN HILL SAND AND GRAVEL CO., LTD., Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

NOTTINGHAMSHIRE

AIZLEWOOD, DOUGLAS E., Bow Bridge, Rotherham. (Tel.: Rotherham 2622.) Crushed and graded limestone, all grades of washed gravel and sands.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

GLEN QUARRIES, LTD., Central Chambers, Wellgate, Rotherham. (Tel.: Rotherham 5223.) Crushed and graded stone, concrete sand, building sand, plastering sand and crushed gravel; could be collected ex quarry or delivered.

GUNTHORPE GRAVELS (1958), LTD. (Tel.: Nottingham 77357; and Works: Lowdham 2131.) (An associate company of T. C. Campbell, Ltd.) All grades washed gravel and sand to B.S.S.

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) Quarries at Hoveringham, Holme Pierrepont, Colwick, Bileasby and Newark. Other quarries throughout the county—deliveries to 21 counties. All grades of washed gravel and sand to any specification. Crushed quartzite for surface dressing of roads a speciality. Combined plant capacity 20,000 tons per day.

NEWARK GRAVEL AND CONCRETE CO., LTD., Grove St., New Balderton, Newark, Notts. (Tel.: Newark 401.) All grades washed sand and aggregates.

NORTH NOTTS. GRAVEL CO., LTD., Beilmoor, Retford, Notts. (Tel.: York 259.)

SALISBURY AND WOOD, LTD., Matlock. (Tel.: 272 273.) (For details, see Derbyshire.)

OXFORDSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

BENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

BICESTER STONE CO., LTD., Stratton Audley Bicester, Oxon. (Tel.: Stratton Audley 391/2.) Manufacturers and suppliers of all grades limestone, tarmacadam, dry, pitching stone, hardcore, etc.

CURTIS, J. AND SONS, LTD., Botley Works, Oxford. (Tel.: Oxford 41081/2/3.) Sand and all grades of washed aggregates. Pits at Radley, near Abingdon. (Tel.: Abingdon 441.)

DANGERFIELD, F. J. AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) (See Northamptonshire.)

GRUNDON, S. (EWEELME), LTD., Eweelme, Oxon. (Tel.: Eweelme 20 and 37.) London Office (Tel.: Uxbridge 36511/2/3.) All grades washed aggregates. Path hoggins, broken stone, building sand.

HALL AND CO., LTD., Cardiff Road, Reading. (Tel.: 50458.)

HAINES, H. (WITNEY), LTD., Oxford Road, Witney. (Tel.: Witney 42.) All grades washed aggregates, hardcore, pitching and broken stone, Cotswold building and walling stone.

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

SNETTERTON STONE QUARRIES, LTD., Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamsted 1208/9.) Roadstone, Cotswold building and walling stone.

RADNORSHIRE

BENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

CLEE HILL TRANSPORT AND ROLLING CO., LTD., Ludlow, Salop. (Tel.: Cleehillstone 284.) (See Shrops.)

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

OLD RADNOR TRADING CO., LTD., Quarries in Radnorshire. (Tel.: Kingston 421.) (See Herefordshire.)

SALOP SAND AND GRAVEL SUPPLY CO., LTD., Admaston, Wellington. (Tel.: 961.) Salop.

RUTLAND

GIBBONS, F. B. AND SONS, LTD., Welby House, Market Deeping, Peterborough. (Tel.: Market Deeping 3321/2363.) (See Lincolnshire for details.)

RUTLAND

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

KETTON STONE CO. (Prop. Andrew's Garage), Ketton, near Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay. Quarries at Ketton.

PETERBOROUGH QUARRIES, LTD., Sandylands, Masey, Peterborough. (Tel.: Market Deeping 2355.) Quarries at Greatham, all grades of broken stone and hardcore. (See also Northamptonshire.)

POLLARD, C. AND SON (TALLINGTON), LTD., Walk House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)

SHROPSHIRE

BALLIDON QUARRIES, LTD., Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes coated limestone to B.S. 802 and 1621 and wet mix; large output; reliable deliveries.

BENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

CLEE HILL TRANSPORT AND ROLLING CO., LTD., Ludlow, Salop. (Tel.: Cleehillstone 284.) Granite stone, tarmac, chippings, filter media, setts, sand, hardcore and ashes.

DORRINGTON SAND AND GRAVEL QUARRIES, near Shrewsbury. (Tel.: Dorington 276.) Supplies of ready mixed concrete, building sand, washed sand, washed and crushed gravel.

DUNNING AND SON, LTD., Haughmond Quarry, near Shrewsbury. (Tel.: Upton Magna 286/7.) All grades of high-quality roadstone, concrete aggregates and coated macadam. All to B.S.S. Any tonnage available for immediate delivery.

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

OLD RADNOR TRADING CO., LTD., Kingston. (Tel.: 421.) (See Herefordshire.)

SALOP SAND AND GRAVEL SUPPLY CO., LTD., Admaston, Wellington. (Tel.: 961.) Salop.

TERN HILL SAND AND GRAVEL CO., LTD., Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)

TRENTHAM GRAVEL CO., LTD., Lordsley Quarries, Willoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concreting sand, plastering sand. Plant capacity 2,000 tons per day.

SOMERSET

ASHAM QUARRY CO., LTD., Chantry, Frome. (Tel.: Nunney 351.) All sizes limestone block, broken and aggregates. Tarred and bituminous macadam to B.S. Ex quarry and delivered.

DANGERFIELD, F. J. AND CO., LTD., 216A Finchley Rd., London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

HALL AND CO., LTD., Longmoor House, Ashton Vale Road, Bristol, 3. (Tel.: 63001.) Gravel aggregates, concreting, plastering and building sand.

WAINWRIGHT, JOHN, AND CO., LTD., Shepton Mallet. (Tel.: Shepton Mallet 2366/7.) All sizes basalt, coated basalt, concrete aggregates, filter media, building blocks and slabs.

SOUTH SCOTLAND

ESK MANUFACTURING CO., LTD., Carlisle. (Tel.: Carlisle 2-4941.) (For details see Cumberland.)

SOUTH WALES

HALL AND CO., LTD., 34 High Street Narberth. (Tel.: 74.)

PENMAENMAWR AND WELSH GRANITE CO., LTD., 18 Quay Street, Cardiff. (Tel.: 20646/7.) All sizes and grades of crushed granite aggregate from our Cardiff and Swansea Dock Deposits. Dolomite aggregates from Ewenny Quarry. (See London.)

SESSIONS AND SONS, LTD., West Dock, Cardiff. Producers of coarse and fine aggregate, dredged and graded to British Standards. Branches Newport and Swansea. (Also Gloucester and Hereford.)

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

SOUTH WALES SAND AND GRAVEL CO., LTD., Head Office: P.O. Box 8, Beaufort Buildings, Swansea. (Tel.: Swansea 5307.) Sand and gravel merchants, builders' merchants, Pennant Quarry owners slag, hardcore, ashes, filling, graded clinker filter media. Deposits Cardiff, Newport, Barry, Port Talbot, Briton Ferry, Swansea, Llanelli.

STAFFORDSHIRE

BALLIDON QUARRIES, LTD., Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes coated limestone to B.S. 802 and 1621 and wet mix; large output; reliable deliveries.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

CROXDEN GRAVEL, LTD., Cheadle, Stoke-on-Trent, Staffs. (Tel.: Tean 393.) Manchester Office: Blackfriars 3766/7. Plant capacity 2,000 tons per day.

DUNNING AND SON, LTD., Wood End Gravel Pits, Hednesford. (Tel.: Hednesford 302/325.) Washed sand and gravel. All to B.S.S. High-quality roadstone, concrete aggregates and coated macadam from our Haughmond Quarry, near Shrewsbury. (See Shropshire.)

HILTON GRAVEL, LTD., Cheadle, Staffs. (Tel.: Tean 241.) Also at Longton, Stoke-on-Trent (Tel.: Longton 32198) and Stratton, Burton-on-Trent. (Tel.: Burton 6081.)

CONTRACTORS' GUIDE TO AGGREGATES

STAFFORDSHIRE

ULAND GRAVEL CO., LTD., Cheadle, Stoke-on-Trent. (Tel.: Cheadle 2523 4, 2119 and 2195.) Manchester Office: 464 Wilbraham Road, Chorlton, Manchester, 21. (Tel.: Chorlton 2274 5.)

KEVIN LIME CO., LTD., Oakmoor, Staffs. (Tel.: Oakmoor 385/386.) Clean graded dry limestone, all to B.S.S. sizes. Output 1,000 tons per day.

RUGELEY GRAVEL CO., LTD., Rugeley Quarries, Rugeley, Staffs. (Tel.: Rugeley 251 2.) Entirely modern plant, sand classifiers. Finest aggregates to B.S.S. Large output.

SALISBURY AND WOOD, LTD., Matlock. (Tel.: 272 273.) (For details, see Derbyshire.)

SHIRE OAK GRAVELS, LTD., Lichfield Road, Walsall Wood, Staffs. Washed crushed gravel and washed sand (Tel.: Brownhills 5253.)

ELRN HILL SAND AND GRAVEL CO., LTD., Alminston Quarries, near Market Drayton, Staffs. (Tel.: Males 261 2 3.) Pit sand, concrete sand, and all grades of washed crushed gravel. Hardcore, clinkers, ashes and hoggins.

TRENTHAM GRAVEL CO., LTD., Lordsley Quarries, Wiltoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304 5.) All sizes crushed or natural washed gravel. Twice washed sharp concreting sand. Plant capacity 2,000 tons per day.

WARDLOW LIMESTONE, LTD., Caudon Low, N. Staffs. (Tel.: Oakmoor 366.) Graded limestone for all purposes. Ground limestone.

WINDMILL SAND AND GRAVEL QUARRIES, LTD., Cannock Road, Wolverhampton. (Tel.: 31108.) Concrete aggregates, plastering, building and asphalt sand. All to B.S.S.

SUFFOLK

ALSFORD SAND AND BALLAST CO., LTD., Alsford Creek, near Colchester, Essex. (Tel.: Wivenhoe 341 494.) Suffolk area pits at Bures and Stoke-by-Nayland. All grades washed aggregate sand; also hoggins.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226 7 8, or London: VIGILANT 2530.) (For details, see Leics.)

DICKERSON, M. (CONTRACTORS), LTD., Gloucester Street, Cambridge. (Tel.: Cambridge 5973 4.) (See Cambs.)

HALL AND CO., LTD., West End Road, Ipswich. (Tel.: Ipswich 55593 4.) Pits at Kesgrave and Homersfield, near Harleston. Gravel aggregates, concreting, plastering and building sand.

MACLAREN BROS. (KENNETT), LTD., Station Road, Kennett, Cambs. (Kentford 333/4.) (See Cambs.)

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: 2441 2 3 4.) Coney Weston 12 and Halstead 2323.) Pits at St. Ives, Knettishall, near Thetford, and Gosheld, near Halstead.

THORPE GRAVEL PITS, LTD., Harvey Lane, Norwich. (Tel.: Norwich 33243 4.) (See Norfolk.)

WEBB, G., CAMBRIDGE, 35 Magrath Av., Cambridge. (Tel.: 59966, 53969, 50353 (night).) (See Cambs.)

SURREY

OFF, HARRY A., LTD., Buckhurst Hill, Cheapside, Ascot, Berks. (Tel.: 1026 7.) (See Berkshire.)

DANGERFIELD, F. J., AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044 8.) For all road aggregates, kerbs, vetts. (See London.)

EASTWOODS SALES, LTD., Eastwood House, City Road, E.C.1. (Tel.: Clerkenwell 2040.) Longside Sand and Ballast Pit, Thorpe, nr. Egham. (Tel.: Egham 3121.) Runfold Sand and Ballast Pit, Runfold, nr. Farnham, Surrey. (Tel.: Runfold 2020.) Producers and distributors of all grades of washed aggregates.

HALL AND CO., LTD., Victoria Wharf, Croydon. (Tel.: Croydon 4444.) Other main depots at Coulsdon, Epsom, Mitcham, Oxted, Purley, Redhill, Tadworth and Woking. Pits at Send and Redhill. Gravel aggregates, concreting, plastering and building sand, Surecrete precision-mixed concrete.

HARRIS, M. P., AND CO., LTD., Kingston Road, Leatherhead, Surrey. (Tel.: 3497.) (See Sussex.)

JANES AND CO., LTD., 2C Buckingham Avenue, Slough. Sand, aggregates, hardcore, ashes, bulldozing & bulk excavation. (Tel.: Slough 20361/2/3.)

LONDON BALLAST CO., LTD., (Tel.: Paddington 5064.) 155A Porchester Terrace North, Paddington, W.2.

SURREY

MARCO (AGGREGATES), LTD., Pit: Norlands Lane, Thorpe, near Egham. (Tel.: Chertsey 3401.) Producers and distributors of high grade washed sand, shingle, ballast, etc.

MARCO (CROYDON), LTD., Hampton Road, West Croydon. (Tel.: Thornton Heath 4236/7/8.) All building and road aggregates.

TWICKENHAM GRAVEL CO., LTD., Government Road, Ash Vale. (Tel.: 2349.)

WELLS, A. L., AND SON, LTD., Builders' Merchants, Garlands Road, Batherhead. (Tel.: 3018/9.) Sand aggregates, hardcore, ashes, cement, Clinker block manufacturers.

WINTON, WM. R., LTD., Send, Woking. (Tel.: Ripley 2454 5.) All grades sand, shingle, ballast, hoggins and ashes. Clinker block manufacturers.

SUSSEX

AVANN, F., Cavendish Avenue, Eastbourne. (Tel.: 4969 70.) Washed and graded ballast, sand, bricks, breeze and concrete blocks, hardcore, clinker, tarmac, etc., supplied.

HALL AND CO., LTD., 15 Chapel Road, Worthing. (Tel.: Worthing 7840.) Other main depots at Bexhill, Bognor, Crowborough, East Grinstead, Eastbourne, Horsham, Hove and Seaford. Pits at Washington, Crumblies, near Eastbourne, Chichester, Rye Harbour, Midhurst, Shoreham and Portlaine. Gravel aggregates, concreting, plastering and building sand, Surecrete precision-mixed concrete.

HARRIS, M. P., AND CO., LTD., West Station Goods Yard, Bexhill (Tel.: 61); Cavendish Place, Eastbourne (Tel.: 3800); Dominion Road, Worthing (Tel.: 8822); Whitbread Lane, Northiam (Tel.: 2211); Station Goods Yard, Haywards Heath (Tel.: 1750); Crawley Road, Horsham (Tel.: 3366). The Hornet, Chichester (Tel.: 4181). All grades aggregates, hardcore, clinker, ashes, etc.

WRIGHT, C., AND SONS, (BTON), LTD., 19 Bristol Gardens, Brighton, 7. (Tel.: Brighton 63357 and 62406.) All-in ballast, washed and crushed shingle, sand, ashes, hardcore, chalk, bricks, etc.

WARWICKSHIRE

BALLIDON QUARRIES, LTD., Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.

DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brackworth 279 and 298; Duston 505.) (See Northamptonshire.)

HALL AND CO., LTD., 188 Lichfield Road, Four Oaks, Sutton Coldfield. (Tel.: Four Oaks 356.) Gravel aggregates, concreting, plastering, building sand.

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

JUDKINS, LTD., Granite Quarries, Tuttle Hill, Nuneaton. (Tel.: Nuneaton 3411—10 lines.) All sizes washed granite aggregate, tarred and bituminous macadam. Slab mix a speciality.

KEVIN LIME CO., LTD., Oakmoor, Staffs. (Tel.: Oakmoor 385/386.) Clean graded dry limestone, all to B.S.S. sizes. Output 1,000 tons per day.

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

SHIRE OAK GRAVELS, LTD., (See Staffordshire.)

WARDLOW LIMESTONE, LTD., Caudon Low, N. Staffs. (Tel.: Oakmoor 366.) (For details, see Staffs.)

WARWICKSHIRE QUARRIES, LTD., Bedworth Road, Nuneaton. (Tel.: Coventry 67821.) Red shale, screened for roads, car parks, sports grounds, tennis courts, etc., attractive colour.

WESTMORLAND

BROOMBYS, LTD., Sandisle, Milnthorpe, Westmorland. (Tel.: Milnthorpe 3251/2.) All grades washed crushed gravel and sand, limestone, granite chippings, pitching, tarmac, rockery stone, etc.

ESK MANUFACTURING CO., LTD., Carlisle. (Tel.: Carlisle 2-4941.) (For details, see Cumberland.)

WILTSHIRE

BULL BROS. S. AND L., LTD., 126A High Street, Winchester. (Tel.: 2264.) (See Hampshire.)

COKE, T. F. (CHELTENHAM), LTD., 267 Gloucester Road, Cheltenham. (Tel.: 4717/4874.) (See Glos.)

WILTSHIRE

DANGERFIELD, F. J., AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044 8.) For all road aggregates, kerbs, vetts. (See London.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

MOREYS (VERWOOD), LTD., Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggins, path gravel.

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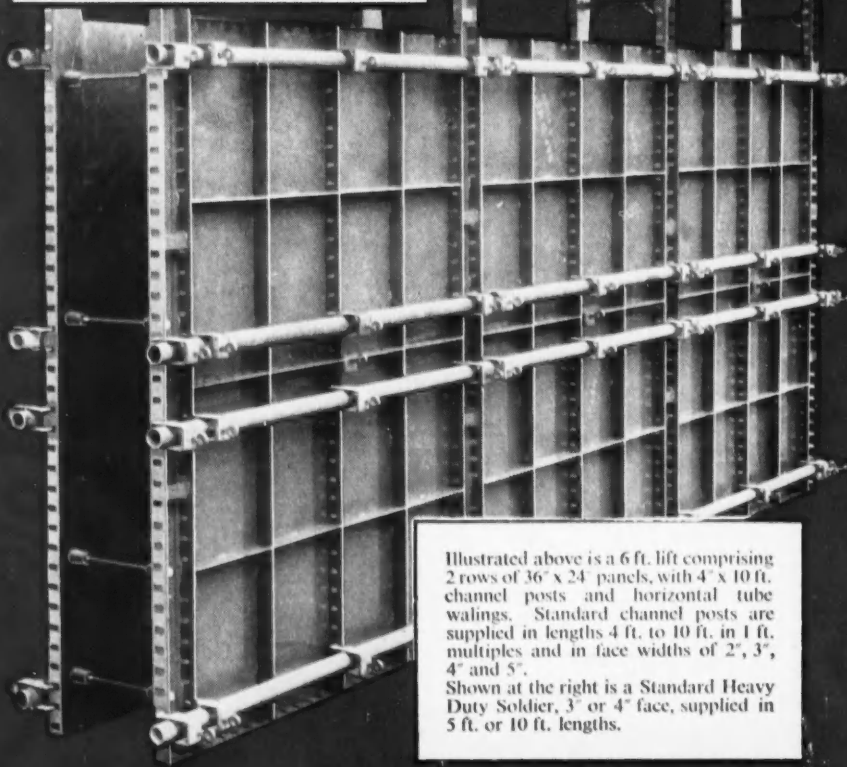
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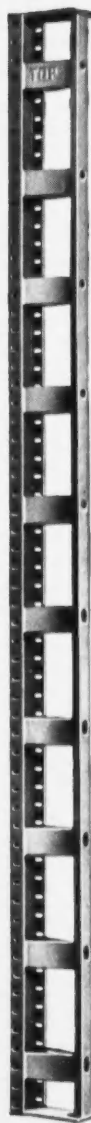
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